514

Biological-Statistical Census of the Species Entering Fisheries in the Cape Canaveral Area

by William W. Anderson and Jack W. Gehringer

SPECIAL SCIENTIFIC REPORT–FISHERIES No. 514

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF COMMERCIAL FISHERIES

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Washington, D.C.
July 1965

CONTENTS

FIGURES

TABLES

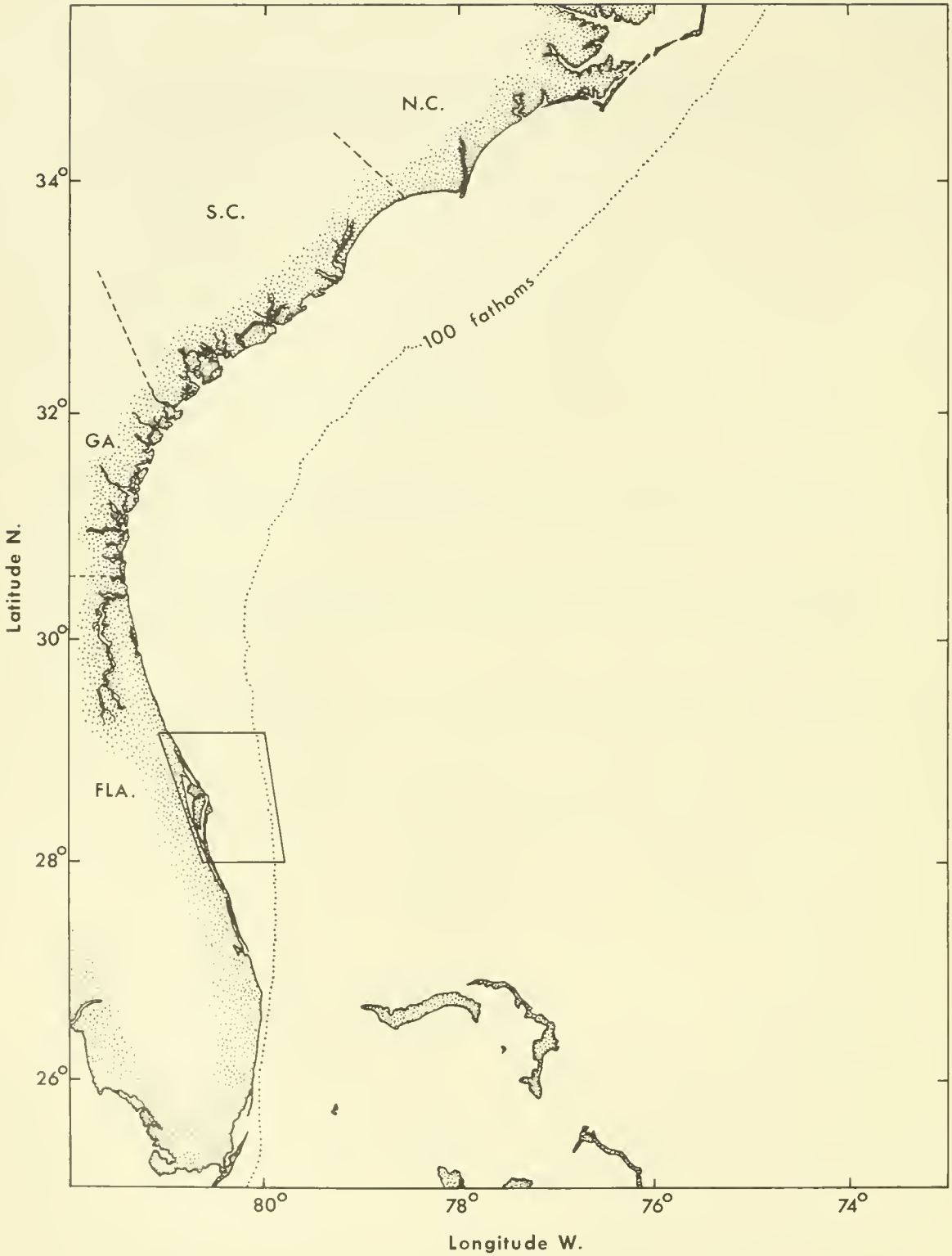

Figure 1.--South Atlantic coast of United States, with Cape Canaveral Area outlined.

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ABSTRACT

For its size, the Cape Canaveral Area is one of the most productive of any along the south Atlantic coast of the United States. A great deal of this productivity relates to the unique river-lagoon complex.

Material is presented under six sections: The commercial fisheries, recreational fishery, fish taken incidental to shrimp trawling, fish and general invertebrate groups taken during exploratory fishing, zooplankton organisms, dip net and trolling collections.

The commercial fisheries produced an average of over 6 million pounds, valued at about $1 million over the 4-year period 1959-62. Eight species (shrimp, black mullet, spotted sea trout, red snapper, blue crab, spot, pompano, and king whiting) contributed 91 percent of the weight and 94 percent of the value--shrimp, the most valuable fishery, was 23 percent of the weight and 54 percent of the value.

We estimate that the annual sport fishery catch is about 3 million fish weighing a total of about 3.2 million pounds. Nine species (in decreasing order of importance), spotted sea trout, pinfish, puffers, sea trout (other), catfish, king whiting, sheepshead, bluefish, and croaker, account for 76 percent of the total numbers of fish taken and 73 percent of the pounds. Spotted sea trout, the most important sport fish, represented 20 percent of the total numbers of fish and 33 percent of the weight. Estimates of annual total effort of sports fishermen are about 754,000 fishermen fishing about 2,749,000 hours. Fishing effort during spring, summer, and fall is about equal, but is reduced in winter to about half the value for other seasons. Total catch is highest during winter and spring, and lowest in summer.

Summaries of life histories are given for several of the more important species.

INTRODUCTION

The U.S. Atomic Energy Commission, because of concentrated activities related to missile and rocket firings and experimentation at Cape Canaveral, Fla.,[1] desired knowledge of the various species entering both the commercial and recreational fisheries including seasonal abundance, value, effort, summaries of available knowledge on life histories, and related information. The Bureau of Commercial Fisheries was requested to do the work, and this was accomplished under Agreement AT (49-7)-2239 with the U.S. Atomic Energy Commission.

The study area, designated the Cape Canaveral Area, is on the central east coast of Florida and extends from approximately 28°00' N. (Melbourne) to 29°10' N. (just north of Ponce de Leon Inlet) (fig. 1). It embraces most of Brevard and Volusia counties and includes a small portion of Halifax River, Mosquito Lagoon, upper portion of the Indian River, Banana River, and coastal waters from the coastline to the edge of the Continental Shelf (100 fathoms). Ponce de Leon Inlet, at the northern end of the area, is the only opening between the ocean and the inside waters. Location, configuration, and extent of Halifax River, Mosquito Lagoon, Indian River, Banana River, and land masses containing them are shown in figure 2.

[1] Cape Canaveral was renamed Cape Kennedy after this report was completed.

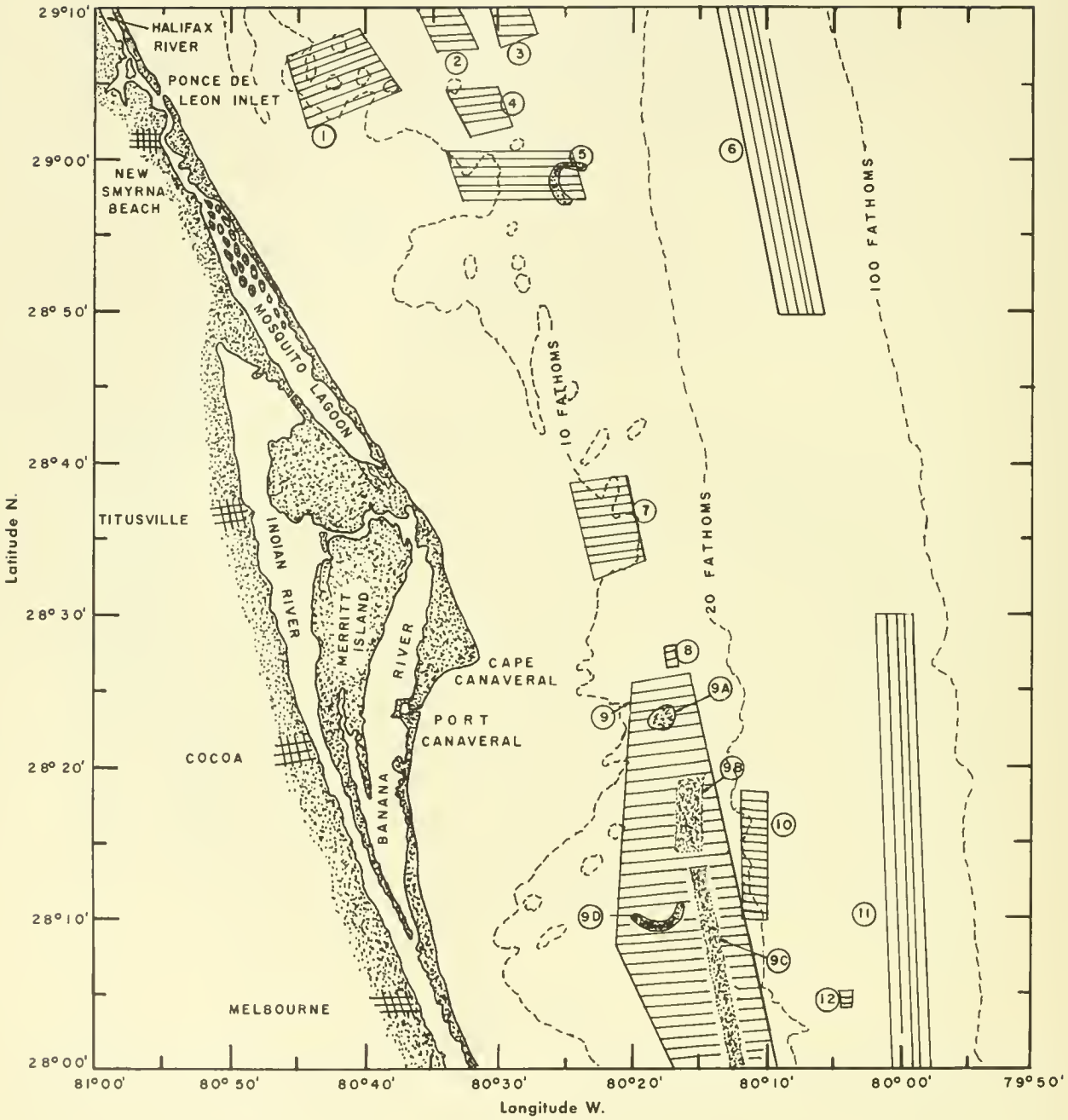


Figure 2.--Cape Canaveral Area, offshore fishing reefs (see table 6 for list of reef areas by numbers shown on chart).

In the Atlantic Ocean there are two divisions of major interest: A narrow strip of water within a few miles of the coast; and the reef areas lying approximately between 10 and 50 fathoms.

This report is organized under six sections.

The Commercial Fisheries--The basic data for this section were furnished by the Bureau of Commercial Fisheries Statistical Center, Miami, Fla.

Fish Taken Incidental to Shrimp Trawling--These are unpublished data resulting from operations of the U.S. Bureau of Fisheries' vessel Launch 58 during the midthirties.

Fish and General Invertebrate Groups Taken During Exploratory Fishing--These are unpublished data resulting from exploratory fishing operations by the U.S. Bureau of Fisheries vessel M/V Pelican in 1940 and subsequent exploratory fishing operations of

the Bureau-operated Motor Vessels Combat, Pelican, and Silver Bay.

Zooplankton Organisms of the Cape Canaveral Area--These data were abstracted from published and unpublished material resulting from cruises of the U.S. Fish and Wildlife Service M/V Theodore N. Gill during 1953 and 1954.

Dipnet and Troll Collections--These few records were taken from published reports of Theodore N. Gill cruises.

Recreational Fishery of the Cape Canaveral Area--The basic data were obtained during field surveys conducted from February to October 1963.

THE COMMERCIAL FISHERIES

Landings for the commercial fisheries in the Cape Canaveral Area during 1959-62 varied from a low of 5,319,200 pounds in 1959 to a high of 6,931,900 pounds in 1961, with a 4-year average of 6,048,300 pounds. Value was also lowest in 1959 at $690,381 and highest in 1961 at $1,219,948--the 4-year average value was $1,006,977. In table 1 are the weights and values of all landings for 1959-62, by species, by year, with 4-year averages. (The poundages of finfishes are in round weight as landed; shellfish, including shrimp, are given in round weight with the exception of oysters, scallops, and clams which are reported as pounds of meat; dollar values are ex-vessel.)

Operating units (fishermen, vessels, boats, and gear) are tabulated in table 2 by years, with a 4-year average. Fishing craft of 5 net tons and over are listed as vessels, and those under 5 net tons are classified as boats with motors or as boats, other. Fishermen on boats are divided into two categories: Regular fishermen--those who receive half or more of their annual income from fishing; and casual fishermen--those who receive less than half their annual income from fishing.

In the Cape Canaveral Area about 31 wholesale producers buy or handle the production of the area fishermen: (1) 4 producers of blue crabs and crab meat, (2) 7 producers of shrimp and fish (mostly from the ocean), (3) 8 producers of oysters, and (4) 12 producers of fish from both the inside waters and the ocean (largely from gill net fishing).

Four-year averages of production by gear show the runaround gill nets to be the most productive with catches of 2,557,075 pounds; followed by otter trawls with 1,622,625; crab pots with 1,251,250; and handlines with 463,100 pounds. In value of production the otter trawls are first with $568,240; followed by runaround gill nets, $236,291; handlines, $98,161; and

Table 1.--Commercial fishery landings, Cape Canaveral Area, 1959-62, in pounds and dollars, by species, by year, with 4-year averages

Species	1959		1960		1961		1962		4-year average	
	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars
Amberjack	39,400	1,970	29,100	1,164	1,500	59	3,600	94	18,400	822
Barracuda	100	4	100	4	--	--	--	--	50	2
Bluefish	7,700	816	6,600	694	13,900	1,310	20,400	1,938	12,150	1,190
Blue runner	100	6	--	--	200	14	--	--	75	5
Cabio	1,300	130	700	63	1,400	122	--	--	850	79
Crevalle (Common jack)	2,500	80	12,600	390	800	24	1,400	35	4,325	132
Dolphin	1,100	143	400	52	500	58	--	--	500	63
Drum, black	8,100	706	12,300	1,069	9,900	789	14,700	986	11,250	888
Drum, red	65,500	9,629	70,300	10,332	68,300	9,357	82,200	11,921	71,575	10,310
Flounders	26,700	4,406	44,900	7,184	39,400	5,770	32,400	5,282	35,850	5,661
Groupers	58,600	6,856	75,800	8,716	63,300	6,900	75,200	8,272	68,225	7,686
Grunts	12,100	908	5,000	400	--	--	--	--	4,275	327
Jewfish	500	40	500	40	2,000	157	800	45	950	71
King mackerel	47,400	5,452	49,700	6,213	83,100	10,807	98,400	14,366	69,650	9,210
King whiting	116,200	10,226	294,500	25,917	375,400	30,253	202,300	17,398	247,100	20,949
Menhaden	19,100	439	53,100	1,434	50,200	1,255	4,100	106	31,625	809
Mojarra (Sand perch)	300	20	2,100	168	900	77	300	23	900	72
Mullet, black	1,736,900	86,845	1,100,600	51,729	1,741,600	83,597	1,902,100	93,202	1,620,300	78,843
Mullet, silver	1,300	110	--	--	--	--	--	--	325	28
Pigfish	1,200	96	8,800	880	3,000	300	1,500	202	3,625	370
Pompano	16,200	9,105	64,500	42,570	55,000	38,500	32,500	23,302	42,050	28,369
Sea bass, black	18,900	2,174	9,400	1,034	5,400	550	16,400	1,772	12,525	1,383
Sea catfish	1,000	70	700	35	100	6	100	7	475	30
Sea trout, gray	5,500	637	6,500	650	700	74	400	43	3,275	351
Sea trout, spotted	458,700	110,088	486,600	114,353	483,400	115,527	375,700	91,295	451,100	107,816
Sheepshead	2,800	232	3,600	303	9,000	612	13,600	993	7,250	535
Snapper, red	306,200	85,124	240,200	70,859	201,600	55,986	257,900	76,854	251,475	72,206
Snapper, other	1,600	230	1,400	251	1,000	190	4,200	622	2,050	323
Spanish mackerel	168,500	15,165	11,700	1,147	96,500	9,940	61,400	5,762	84,525	8,004
Spot	302,700	27,545	360,500	33,166	229,000	26,564	198,700	23,856	272,725	27,783
Tenpounder	800	25	--	--	--	--	--	--	200	6
Triggerfish	1,900	104	1,000	60	600	36	2,200	145	1,425	86
Warsaw	900	81	1,300	104	800	56	1,300	98	1,075	85
Unclassified, food	--	--	--	--	101,300	6,889	77,500	5,307	44,700	3,049
Unclassified, bait	3,600	187	2,300	115	16,500	363	900	19	5,825	171
Crabs, blue, hard	1,027,600	52,409	1,272,600	63,630	1,569,700	72,176	1,154,400	63,492	1,256,075	62,927
Crabs, blue, soft	--	--	300	150	400	200	--	--	175	88
Crabs, stone	12,900	4,257	10,300	3,399	1,100	380	4,300	1,780	7,150	2,454
Shrimp	833,600	251,378	2,048,900	688,934	1,661,000	728,443	967,100	518,112	1,377,650	546,717
Oysters	6,600	2,020	9,200	2,760	36,100	10,612	31,500	9,450	20,850	6,211
Squid	3,100	668	900	135	3,700	555	2,900	432	2,650	448
Scallops, calico	--	--	--	--	3,600	1,440	400	168	1,000	402
Clams, hard	--	--	--	--	--	--	300	96	75	24
Totals	5,319,200	690,381	6,299,000	1,140,104	6,931,900	1,219,948	5,643,100	977,475	6,048,300	1,006,977

Table 2.--Commercial fishery operating units, Cape Canaveral Area, 1959-62, by years with 4-year averages

Item	1959	1960	1961	1962	4-year average
Fishermen:					
On vessels	258	290	273	191	253
On boats and shore:					
Regular	146	140	149	151	147
Casual	428	265	157	62	228
Total	832	695	579	404	628
Vessels, motor	140	130	125	85	120
Gross tonnage	1,719	4,759	4,132	2,732	3,336
Boats:					
Motor	251	171	126	198	194
Other	66	42	47	25	44
Gear:					
Otter trawls, shrimp	124	188	226	146	171
Yards at mouth	2,530	3,508	3,911	2,146	2,870
Crab pots and traps	1,980	2,120	2,570	1,165	1,959
Gill nets:					
Drift	4	2	--	--	2
Square yards	8,400	4,200	--	--	3,150
Runaround	95	91	121	105	108
Square yards	139,250	88,500	124,150	64,550	104,375
Trammel nets	--	2	2	3	2
Square yards	--	1,270	1,650	2,400	1,355
Lines:					
Hand	500	295	194	114	276
Hooks	536	305	224	161	307
Troll	44	31	41	18	34
Hooks	44	31	41	18	34
Trot with baits	3	2	--	1	2
Baits	4,800	1,400	--	600	1,700
Dip nets, common	9	--	--	--	2
Cast nets	--	5	8	15	7
Dredges, scallop	--	--	1	2	1
Yards at mouth	--	--	3	7	3
Tongs, oyster	--	2	7	4	3
By hand, oyster	6 Men	7 Men	--	9 Men	6 Men

crab pots, $64,887. In table 3 are shown the complete 1959-62 landings in pound and dollar value by gear, by year, by subarea, with 4-year averages.

Of the numerous species entering the fisheries, eight dominate the landings. These are shrimp, black mullet, spotted sea trout, red snapper, blue crab, spot, pompano, and king whiting--together representing a 4-year average of 91 percent of the annual poundage and 94 percent of the dollar value. In table 4 are given the landings of these eight dominant species, all other species combined, and 4-year average pound and dollar values by month, 1959-62.

The commercial fisheries can be divided into three major geographic subdivisions: (1) Those prosecuted in the inside waters--principally in the Indian and Banana Rivers but to a lesser degree in Halifax River, (2) those carried out in the Atlantic Ocean within a few miles of the coast, and (3) those which are worked from about 10 to 50 fathoms off the coast. These three geographic subdivisions and the dominant species taken therein will be discussed separately.

INSIDE WATERS

Of the inside waters, Indian and Banana Rivers are of greatest importance to the fisheries. These shallow bodies of water, or lagoons--maximum depth about 14 feet but generally less than 5 feet--have extensive shallow flats, particularly adjacent to the shorelines. Large areas of the bottom are covered with vegetation, providing ideal habitat for many fish and a wide variety of other organisms. The Intracoastal Waterway, with a controlling depth of about 12 feet, runs south through Mosquito Lagoon into the north end of Indian River and thence through Indian River to the southern end of the work area.

These lagoons represent some of the most productive inside waters in Florida. Man, with his constant dredging and filling, is rapidly changing the nature of the lagoons--and these changes are not an improvement to the habitat.

Commercial fishermen feel that the tremendous building boom and related dredging and filling, together with a fantastic increase in the numbers of pleasure craft using the rivers, have affected the fish movements and disturbed the areas of fish concentrations.

A side effect of the growth of the missile base and related industries on the fisheries is that young men from fishing families are not becoming fishermen. Good earnings from fishing do not seem to be the deciding factor--many of these young men apparently prefer employment in the newly developed industry in the area.

Of the eight dominant species mentioned previously, five (black mullet, spotted sea trout, blue crab, spot, and pompano) are taken by inside fisheries--three of these (black mullet, blue crab, and pompano) are taken exclusively in inside waters, and about 95 percent of the spotted sea trout and spot are taken from inside waters. In table 5 are shown the complete commercial fishery landings, Cape Canaveral Area, 4-year pound and dollar value averages by species for subareas and the entire area, by months, 1959-62.

Black Mullet

The mullet fishery, despite the impressive landing figures, is economically hard pressed. Mullet is a "cheap" fish, bringing the fisherman an average of only about 5 cents per pound. East coast of Florida mullet are also smaller than mullet from the Florida west coast and in less demand in the very competitive mullet market. Because of these conditions, only a portion of the mullet available are netted and sold each year--on many occasions buyers place the fishermen on catch limits or restrict entirely the landing of mullet.

This is a year-round fishery with important poundage every month. The heaviest landings occur during July-November, and peak production on the average is in October and November. Mullet ranks first in volume of the Cape Canaveral Area fisheries (4-year average of 1,620,300 pounds) and third in value (4-year average of $78,845), being exceeded by shrimp and spotted sea trout (tables 4 and 5). Most of the production is taken in runaround gill nets.

Anderson (1958a) described early life history stages (4-116 mm.) of striped or black mullet along the U.S. south Atlantic coast. He stated that striped mullet appear to spawn along the coast from lower Florida to North Carolina over a broad area extending from about the 20-fathom line into the Gulf Stream. The data indicate that spawning occurs from October to

Table 3.--Commercial fishery landings, Cape Canaveral Area, 1959-62, pound and dollar values by gear, by year, by subarea. with 4-year averages

Subareas	Shrimp and fish otter trawls		Crab pots		Drift gill nets		Runaround gill nets		Trammel nets		Hand lines		Troll lines	
1959	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars
Atlantic Ocean	977,500	266,408	--	--	15,100	1,239	180,000	15,092	--	--	467,100	103,183	56,600	6,205
Indian River	--	--	984,100	53,789	5,000	1,200	1,610,200	150,070	--	--	23,700	4,398	--	--
Banana River	--	--	--	--	--	--	501,100	44,416	--	--	50,000	7,218	--	--
Halifax River	--	--	46,700	2,382	--	--	359,500	30,348	--	--	17,800	1,493	--	--
Total	977,500	266,408	1,030,800	56,171	20,100	2,439	2,650,800	239,926	--	--	558,600	116,292	56,600	6,205
1960														
Atlantic Ocean	2,352,100	718,817	--	--	--	--	30,800	1,904	--	--	408,700	88,407	56,100	7,087
Indian River	--	--	1,231,200	64,855	2,500	588	1,546,600	176,846	20,000	13,200	65,900	10,164	--	--
Banana River	--	--	--	--	--	--	352,200	30,202	--	--	35,600	5,432	--	--
Halifax River	--	--	45,500	2,275	--	--	122,300	15,965	--	--	9,300	1,065	--	--
Total	2,352,100	718,817	1,276,700	67,130	2,500	588	2,051,900	224,917	20,000	13,200	519,500	105,068	56,100	7,087
1961														
Atlantic Ocean	2,007,900	757,368	--	--	--	--	97,100	9,954	--	--	301,900	66,465	85,600	11,094
Indian River	--	--	1,103,800	50,926	--	--	1,939,300	176,772	38,200	24,888	29,500	4,965	--	--
Banana River	--	--	467,400	21,830	--	--	430,100	31,222	21,700	14,068	10,200	1,303	--	--
Halifax River	--	--	--	--	--	--	338,700	32,565	--	--	10,400	2,169	--	--
Total	2,007,900	757,368	1,571,200	72,756	--	--	2,805,200	250,513	59,900	38,956	352,000	74,902	85,600	11,094
1962														
Atlantic Ocean	1,153,000	530,368	--	--	--	--	72,400	6,681	--	--	376,700	89,496	96,800	13,976
Indian River	--	--	857,600	48,173	--	--	1,981,200	165,881	23,100	14,587	28,400	4,298	--	--
Banana River	--	--	268,700	15,317	--	--	312,800	27,244	15,400	9,432	10,000	1,237	--	--
Halifax River	--	--	--	--	--	--	354,000	30,002	--	--	7,200	1,350	--	--
Total	1,153,000	530,368	1,126,300	63,490	--	--	2,720,400	229,808	38,500	24,019	422,300	96,381	96,800	13,976
4-Year Averages														
Atlantic Ocean	1,622,625	568,240	--	--	3,775	310	95,075	8,408	--	--	388,600	86,888	73,775	9,591
Indian River	--	--	1,044,175	54,436	1,875	447	1,769,325	167,392	20,325	13,169	36,875	5,956	--	--
Banana River	--	--	184,025	9,287	--	--	399,050	33,271	9,275	5,875	26,450	3,798	--	--
Halifax River	--	--	23,050	1,164	--	--	293,625	27,220	--	--	11,175	1,519	--	--
Cape Canaveral Area	1,622,625	568,240	1,251,250	64,887	5,650	757	2,557,075	236,291	29,600	19,044	463,100	98,161	73,775	9,591

Subareas	Trot with baits		Cast nets		Scallop dredges		Tongs, oyster		By hand, oyster		Total	
1959	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars
Atlantic Ocean	--	--	--	--	--	--	--	--	--	--	1,690,300	392,127
Indian River	--	--	8,500	425	--	--	--	--	--	--	2,631,500	209,882
Banana River	--	--	--	--	--	--	--	--	--	--	551,100	51,634
Halifax River	9,700	495	--	--	--	--	--	--	6,600	2,020	440,300	36,738
Total	9,700	495	8,500	425	--	--	--	--	6,600	2,020	5,319,200	690,381
1960												
Atlantic Ocean	--	--	--	--	--	--	--	--	--	--	2,847,700	816,215
Indian River	6,500	325	4,500	212	--	--	400	120	8,800	2,640	2,886,400	268,950
Banana River	--	--	--	--	--	--	--	--	--	--	387,800	35,634
Halifax River	--	--	--	--	--	--	--	--	--	--	177,100	19,305
Total	6,500	325	4,500	212	--	--	400	120	8,800	2,640	6,299,000	1,140,104
1961												
Atlantic Ocean	--	--	--	--	3,600	1,440	--	--	--	--	2,496,100	846,321
Indian River	--	--	5,600	269	--	--	23,900	7,026	12,200	3,586	3,152,500	268,432
Banana River	--	--	--	--	--	--	--	--	--	--	929,400	68,423
Halifax River	--	--	4,800	2,038	--	--	--	--	--	--	353,900	36,772
Total	--	--	10,400	2,307	3,600	1,440	23,900	7,026	12,200	3,586	6,931,900	1,219,948
1962												
Atlantic Ocean	--	--	--	--	400	168	--	--	--	--	1,699,300	640,689
Indian River	32,400	1,782	6,500	318	--	--	12,700	3,810	19,100	5,736	2,961,000	244,585
Banana River	--	--	--	--	--	--	--	--	--	--	606,900	53,230
Halifax River	--	--	14,700	7,619	--	--	--	--	--	--	375,900	38,971
Total	32,400	1,782	21,200	7,937	400	168	12,700	3,810	19,100	5,736	5,643,100	977,475
Four-Year Averages												
Atlantic Ocean	--	--	--	--	1,000	402	--	--	--	--	--	--
Indian River	9,725	527	6,275	306	--	--	9,250	2,739	10,025	2,991	--	--
Banana River	--	--	--	--	--	--	--	--	--	--	--	--
Halifax River	2,425	124	4,875	2,414	--	--	--	--	1,650	505	--	--
Cape Canaveral Area	12,150	651	11,150	2,720	1,000	402	9,250	2,739	11,675	3,496	--	--

February, but is confined largely to January, with the peak in December.

Young mullet apparently remain at sea until they are from 18 to 28 mm. long (mostly 20 to 25 mm.), at which time they move to the coast and then into the estuarine waters.

Growth has been estimated for the species in south Georgia (and should equal or exceed these rates in the Cape Canaveral Area). Growth is slower during the colder winter months, but speeds up with the warming of the waters in spring. From about March to October the size

Table 4.--Commercial fishery landings, Cape Canaveral Area, for eight dominant species, all others combined; four-year average pound and dollar values by month, 1959-1962

Month	Eight dominant species													
	Shrimp		Black mullet		Spotted sea trout		Red snapper		Blue crab, hard		Spot		Pompano	
	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars
January	285,050	95,686	107,850	5,629	70,050	15,892	28,100	8,311	76,525	4,147	50	5	1,000	750
February	34,425	11,923	111,800	5,687	45,600	10,769	27,075	7,607	69,775	3,678	825	85	475	340
March	12,525	5,013	122,725	5,993	40,000	9,769	25,475	7,127	81,700	4,089	3,450	344	1,900	1,327
April	5,825	2,611	96,425	4,701	35,000	8,438	25,325	7,661	91,075	4,614	10,375	1,071	825	567
May	4,125	2,041	114,000	5,612	33,050	8,074	29,100	8,299	118,575	5,985	17,025	1,729	4,125	2,774
June	9,950	3,809	116,575	5,678	36,100	8,847	33,500	8,918	129,225	6,388	37,400	3,910	6,925	4,647
July	24,375	9,672	147,475	6,988	30,325	7,443	18,050	5,137	138,525	6,699	20,925	2,200	8,325	5,363
August	22,250	8,816	171,175	7,994	31,600	7,751	12,350	3,641	145,525	7,052	45,725	4,797	8,525	5,656
September	26,550	11,345	167,500	8,140	22,600	5,513	13,200	3,820	113,125	5,520	58,800	5,964	5,025	3,406
October	173,525	66,783	181,100	8,850	26,850	6,568	7,125	2,175	104,800	5,272	61,300	5,875	3,150	2,220
November	329,300	144,841	184,525	8,839	31,250	7,495	12,600	3,778	97,250	4,924	11,675	1,209	1,425	1,062
December	449,750	184,178	99,150	4,734	48,675	11,257	19,575	5,732	89,975	4,560	5,175	595	350	260
Total	1,377,650	546,718	1,620,300	78,845	451,100	107,816	251,475	72,206	1,256,075	62,928	272,725	27,784	42,050	28,372

Month	King whiting		Total for eight species		Percent of total catch		All other species		Percent of total catch		All species	
							Total				Total	
	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars
January	63,075	5,192	631,700	135,612	93	95	47,100	6,700	7	5	678,800	142,312
February	45,250	3,677	335,225	43,766	92	91	29,850	4,255	8	9	365,075	48,021
March	9,275	814	297,050	34,476	91	90	29,275	3,815	9	10	326,325	38,291
April	3,050	270	267,900	29,933	86	86	44,450	4,880	14	14	312,350	34,813
May	775	70	320,775	34,584	82	82	72,725	7,345	18	18	393,500	41,929
June	1,925	170	371,600	42,367	87	89	55,075	5,172	13	11	426,675	47,539
July	4,175	373	392,175	43,875	90	91	44,400	4,344	10	9	436,575	48,219
August	2,075	249	439,225	45,956	91	92	42,400	4,115	9	8	481,625	50,071
September	900	90	407,700	43,798	95	95	22,875	2,287	5	5	430,575	46,085
October	8,500	735	566,350	98,478	95	97	30,100	3,540	5	3	596,450	102,018
November	42,200	3,668	710,225	175,816	94	97	43,150	5,729	6	3	753,375	181,545
December	65,900	5,643	778,550	216,959	92	96	68,425	9,231	8	4	846,975	226,190
Total	247,100	20,951	5,518,475	945,620	91	94	529,825	61,413	9	6	6,048,300	1,007,033

increase is about 17 mm. a month. Mullet from the earliest spawning (October) would reach a minimum length of about 160 mm. standard length by the end of the first year.

Spotted Sea Trout

The fishery for spotted sea trout is also year-round--the heaviest average landings occur from December through March, with the lowest period of production during September and October. Spotted sea trout ranks fourth in volume of the Cape Canaveral Area fisheries (4-year average of 451,100 pounds), exceeded by black mullet, shrimp, and blue crab, and second in value (4-year average of $107,816), exceeded only by shrimp (tables 4 and 5). Gill nets are the principal gear, but trolling is also used. Tabb (1960) said, "Spotted seatrout netters rely upon the seasonal movements of the species and produce their heaviest catches during winter when the fish are concentrated in small areas by cold weather or during the concentration of fish at spawning time."

A study of the biology of the spotted sea trout in the Indian River was conducted and reported by Tabb (1961). He summarized his findings as follows:

> "This species exhibits a rapid growth rate. Average growth rates of 16, 8, 7, 6, and 6 centimeters were obtained by the scale calculation method for the first five years of life. Growth rates for the species were found to be slightly higher in the Indian River area than in other portions of its range.
>
> "Sexual dimorphism in growth and life span is exhibited with females growing faster and living longer than males. Few males live longer than six years. The maximum age observed was 10 years and the maximum weight 13 pounds, 12 ounces. The species is carnivorous and will eat any prey available. In the brackish lagoons pink and brown shrimp, mysid shrimp, and small fishes make up the bulk of the diet. The species feeds sporadically and can ingest relatively large prey. Spotted seatrout 15 inches long produced 15,000 eggs; those 20 inches long, 150,000 eggs; 23 inches long, 400,000 eggs and 28 inches long, 1,100,000 eggs. Spawning takes place in the deeper holes and channels of the Indian and Banana River lagoons. The spawning season appears to be shorter in the Indian River system than in other parts of the range (mid-April to late July compared with mid-April to October of other authors). Adult spotted seatrout exhibit local movements and concentration during the spawning season and are subject to intensive fishing pressure at that time."

Blue Crab

Blue crabs support a year-round fishery. The months of highest average production are May through September, and the lowest, January through March. Blue crab is third in poundage of the Cape Canaveral Area fisheries (4-year average of 1,256,075 pounds), exceeded by black mullet and shrimp, and fifth in value (4-year average of $62,928),

Table 5.--Commercial fishery landings, Cape Canaveral Area, 4-year pound and dollar value averages by species for entire area and subareas, by months for period 1959-62

Month of January

Species	Atlantic Ocean		Indian River		Banana River		Halifax River		4-year average Cape Canaveral Area	
	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars
Amberjack	--	--	--	--	--	--	--	--	--	--
Barracuda	--	--	--	--	--	--	--	--	--	--
Bluefish	425	41	125	10	75	6	--	--	625	58
Blue runner	--	--	--	--	--	--	--	--	--	--
Cabio	--	--	--	--	--	--	--	--	--	--
Crevalle (Common jack)	175	6	--	--	--	--	--	--	175	6
Dolphin	25	4	--	--	--	--	--	--	25	4
Drum, black	725	56	575	48	400	30	225	19	1,925	153
Drum, red	1,625	230	5,700	801	475	67	2,475	349	10,275	1,446
Flounders	8,850	1,435	--	--	--	--	25	4	8,875	1,439
Groupers	5,250	617	--	--	--	--	--	--	5,250	617
Grunts	2,650	201	--	--	--	--	--	--	2,650	201
Jewfish	--	--	150	11	--	--	--	--	150	11
King mackerel	375	51	--	--	--	--	--	--	375	51
King whiting	51,800	4,256	7,850	644	3,325	284	100	8	63,075	5,192
Menhaden	125	4	1,550	40	375	9	150	4	2,200	56
Mojarra (Sand perch)	75	6	275	22	150	12	--	--	500	40
Mullet, black	--	--	75,950	3,960	19,725	1,038	12,175	631	107,850	5,629
Mullet, silver	--	--	--	--	--	--	--	--	--	--
Pigfish	--	--	1,225	131	--	--	525	56	1,750	187
Pompano	--	--	700	524	300	225	--	--	1,000	750
Sea bass, black	1,075	126	--	--	--	--	--	--	1,075	126
Sea catfish	--	--	--	--	--	--	--	--	--	--
Sea trout, gray	25	3	--	--	--	--	--	--	25	3
Sea trout, spotted	775	178	50,025	11,351	10,475	2,375	8,775	1,989	70,050	15,892
Sheepshead	--	--	225	17	175	12	--	--	400	29
Snapper, red	28,100	8,311	--	--	--	--	--	--	28,100	8,311
Snapper, other	150	23	--	--	--	--	--	--	150	23
Spanish mackerel	25	2	--	--	--	--	--	--	25	2
Spot	--	--	50	5	--	--	--	--	50	5
Tenpounder	--	--	--	--	--	--	--	--	--	--
Triggerfish	125	8	--	--	--	--	--	--	125	8
Warsaw	--	--	--	--	--	--	--	--	--	--
Unclassified, food	--	--	3,825	183	325	21	850	55	4,000	258
Unclassified, bait	--	--	25	1	25	1	--	--	50	1
Crabs, blue, hard	--	--	63,500	3,435	11,500	623	1,525	89	76,525	4,147
Crabs, blue, soft	--	--	--	--	--	--	--	--	--	--
Crabs, stone	--	--	2,025	666	--	--	--	--	2,025	666
Shrimp	284,475	95,438	--	--	--	--	575	247	285,050	95,686
Oysters	--	--	4,000	1,189	--	--	350	107	4,350	1,296
Squid	75	11	--	--	--	--	--	--	75	11
Scallops, calico	--	--	--	--	--	--	--	--	--	--
Clams, hard	--	--	25	8	--	--	--	--	25	8
Total	386,925	111,007	216,800	23,046	47,325	4,703	27,750	3,558	678,800	142,312

Month of February

Amberjack	75	3	--	--	--	--	--	--	75	3
Barracuda	--	--	--	--	--	--	--	--	--	--
Bluefish	325	42	150	16	125	14	--	--	600	72
Blue runner	--	--	--	--	--	--	--	--	--	--
Cabio	--	--	--	--	--	--	--	--	--	--
Crevalle (Common jack)	150	5	--	--	--	--	--	--	150	5
Dolphin	125	16	--	--	--	--	--	--	125	16
Drum, black	525	44	450	41	100	8	250	23	1,325	115
Drum, red	675	98	3,100	426	300	44	1,350	185	5,425	754
Flounders	2,250	350	--	--	--	--	--	--	2,250	350
Groupers	4,700	546	--	--	--	--	--	--	4,700	546
Grunts	250	20	--	--	--	--	--	--	250	20
Jewfish	75	5	50	4	--	--	--	--	125	9
King mackerel	375	51	--	--	--	--	--	--	375	51
King whiting	39,150	3,143	4,300	378	1,700	148	100	9	45,250	3,677
Menhaden	100	3	850	23	200	6	75	2	1,225	33
Mojarra (Sand perch)	50	4	125	10	50	4	--	--	225	18
Mullet, black	--	--	78,425	3,980	20,100	1,031	13,275	676	111,800	5,687
Mullet, silver	--	--	--	--	--	--	--	--	--	--
Pigfish	--	--	100	10	--	--	50	5	150	15
Pompano	--	--	350	251	125	89	--	--	475	340
Sea bass, black	1,475	162	--	--	--	--	--	--	1,475	162
Sea catfish	--	--	--	--	--	--	--	--	--	--
Sea trout, gray	25	3	50	5	--	--	25	3	100	11
Sea trout, spotted	775	184	32,450	7,658	6,650	1,574	5,725	1,354	45,600	10,769
Sheepshead	25	2	125	10	125	10	--	--	275	23
Snapper, red	27,075	7,607	--	--	--	--	--	--	27,075	7,607
Snapper, other	50	8	--	--	--	--	--	--	50	8
Spanish mackerel	--	--	--	--	--	--	--	--	--	--
Spot	75	8	700	71	--	--	50	7	825	85
Tenpounder	--	--	--	--	--	--	--	--	--	--
Triggerfish	475	28	--	--	--	--	--	--	475	28
Warsaw	100	8	--	--	--	--	--	--	100	8
Unclassified, food	--	--	3,325	215	375	24	975	63	4,675	302
Unclassified, bait	--	--	125	3	50	1	--	--	175	4
Crabs, blue, hard	--	--	57,450	3,028	10,900	569	1,425	81	69,775	3,678
Crabs, blue, soft	--	--	--	--	--	--	--	--	--	--
Crabs, stone	--	--	1,250	416	150	55	--	--	1,400	472
Shrimp	34,200	11,817	--	--	--	--	225	106	34,425	11,923
Oysters	--	--	3,700	1,106	--	--	350	107	4,050	1,214
Squid	50	8	--	--	--	--	--	--	50	8
Scallops, calico	--	--	--	--	--	--	--	--	--	--
Clams, hard	--	--	25	8	--	--	--	--	25	8
Total	113,150	24,165	187,100	17,659	40,950	3,577	23,875	2,621	365,075	48,021

Table 5.--Continued

Species	Atlantic Ocean		Indian River		Banana River		Halifax River		4-year average Cape Canaveral Area	
	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars
Month of March										
Amberjack	200	8	--	--	--	--	--	--	200	8
Barracuda	--	--	--	--	--	--	--	--	--	--
Bluefish	1,275	145	200	24	200	25	--	--	1,675	193
Blue runner	--	--	--	--	--	--	--	--	--	--
Cabio	--	--	--	--	--	--	--	--	--	--
Crevalle (Common jack)	1,500	48	25	1	--	--	50	2	1,575	50
Dolphin	--	--	--	--	--	--	--	--	--	--
Drum, black	350	28	300	26	25	2	125	11	800	67
Drum, red	800	118	1,850	266	75	11	825	119	3,550	513
Flounders	1,025	164	--	--	--	--	--	--	1,025	164
Groupers	6,450	721	--	--	--	--	--	--	6,450	721
Grunts	--	--	--	--	--	--	--	--	--	--
Jewfish	--	--	--	--	--	--	--	--	--	--
King mackerel	1,750	234	--	--	--	--	--	--	1,750	234
King whiting	7,925	696	850	74	500	44	--	--	9,275	814
Menhaden	225	6	1,075	28	175	5	75	2	1,550	40
Mojarra (Sand perch)	--	--	--	--	--	--	--	--	--	--
Mullet, black	--	--	86,725	4,233	21,525	1,034	14,475	726	122,725	5,993
Mullet, silver	--	--	--	--	--	--	--	--	--	--
Pigfish	--	--	125	14	--	--	150	16	275	29
Pompano	--	--	1,250	871	650	456	--	--	1,900	1,327
Sea bass, black	1,250	135	--	--	--	--	--	--	1,250	135
Sea catfish	25	2	--	--	--	--	--	--	25	2
Sea trout, gray	50	5	--	--	--	--	--	--	50	5
Sea trout, spotted	350	84	28,775	7,031	6,025	1,467	4,850	1,187	40,000	9,769
Sheepshead	--	--	75	6	75	6	--	--	150	13
Snapper, red	25,475	7,127	--	--	--	--	--	--	25,475	7,127
Snapper, other	75	12	--	--	--	--	--	--	75	12
Spanish mackerel	--	--	--	--	--	--	--	--	--	--
Spot	125	13	2,900	290	300	29	125	14	3,450	344
Tenpounder	--	--	--	--	--	--	--	--	--	--
Triggerfish	150	9	--	--	--	--	--	--	150	9
Warsaw	100	8	--	--	--	--	--	--	100	8
Unclassified, food	--	--	1,975	130	225	15	575	38	2,775	183
Unclassified, bait	--	--	--	--	--	--	1,475	76	1,475	76
Crabs, blue, hard	--	--	67,700	3,403	14,000	686	--	--	81,700	4,089
Crabs, blue, soft	--	--	--	--	--	--	--	--	--	--
Crabs, stone	--	--	950	325	150	54	--	--	1,100	379
Shrimp	11,375	4,455	--	--	--	--	1,150	558	12,525	5,013
Oysters	--	--	2,800	821	--	--	325	100	3,125	920
Squid	25	4	--	--	--	--	--	--	25	4
Scallops, calico	100	42	--	--	--	--	--	--	100	42
Clams, hard	--	--	25	8	--	--	--	--	25	8
Total	60,600	14,064	197,600	17,551	43,925	3,834	24,200	2,849	326,325	38,291
Month of April										
Amberjack	50	2	--	--	--	--	50	3	100	5
Barracuda	--	--	--	--	--	--	--	--	--	--
Bluefish	1,350	136	325	31	225	22	--	--	1,900	189
Bluerunner	--	--	--	--	--	--	--	--	--	--
Cabio	--	--	--	--	--	--	--	--	--	--
Crevalle (Common jack)	450	14	25	1	--	--	25	1	500	16
Dolphin	100	12	--	--	--	--	--	--	100	12
Drum, black	275	21	100	8	25	2	75	7	475	38
Drum, red	750	111	1,575	221	50	7	650	91	3,025	429
Flounders	950	157	--	--	--	--	--	--	950	157
Groupers	5,375	615	--	--	--	--	--	--	5,375	615
Grunts	--	--	--	--	--	--	--	--	--	--
Jewfish	--	--	--	--	--	--	--	--	--	--
King mackerel	10,775	1,417	--	--	--	--	--	--	10,775	1,417
King whiting	2,425	215	350	31	275	24	--	--	3,050	270
Menhaden	300	8	1,275	32	325	8	125	3	2,025	50
Mojarra (Sand perch)	--	--	--	--	--	--	--	--	--	--
Mullet, black	--	--	67,675	3,300	17,675	847	11,075	555	96,425	4,701
Mullet, silver	--	--	--	--	--	--	--	--	--	--
Pigfish	--	--	--	--	--	--	--	--	--	--
Pompano	--	--	625	427	200	140	--	--	825	567
Sea bass, black	1,450	170	--	--	--	--	--	--	1,450	170
Sea catfish	75	4	50	3	25	1	--	--	150	8
Sea trout, gray	125	13	25	3	--	--	--	--	150	16
Sea trout, spotted	225	55	24,950	6,016	5,525	1,330	4,300	1,038	35,000	8,438
Sheepshead	--	--	75	5	125	9	--	--	200	14
Snapper, red	25,325	7,661	--	--	--	--	--	--	25,325	7,661
Snapper, other	125	18	--	--	--	--	--	--	125	18
Spanish mackerel	9,475	864	--	--	--	--	--	--	9,475	864
Spot	375	38	7,100	742	1,975	193	925	99	10,375	1,071
Tenpounder	--	--	--	--	--	--	--	--	--	--
Triggerfish	100	6	--	--	--	--	--	--	100	6
Warsaw	125	10	--	--	--	--	--	--	125	10
Unclassified, food	--	--	2,550	169	300	20	775	51	3,625	240
Unclassified, bait	1,350	28	600	13	75	2	--	--	2,025	42
Crabs, blue, hard	--	--	76,150	3,867	12,850	641	2,075	107	91,075	4,614
Crabs, blue, soft	--	--	25	13	--	--	--	--	25	13
Crabs, stone	--	--	600	199	--	--	--	--	600	199
Shrimp	5,400	2,390	--	--	--	--	425	221	5,825	2,611
Oysters	--	--	1,100	328	--	--	--	--	1,100	328
Squid	25	4	--	--	--	--	--	--	25	4
Scallops, calico	50	20	--	--	--	--	--	--	50	20
Clams, hard	--	--	--	--	--	--	--	--	--	--
Total	67,025	13,989	185,175	15,409	39,650	3,246	20,500	2,176	312,350	34,813

Table 5.--Continued

Species	Atlantic Ocean		Indian River		Banana River		Halifax River		4-year average Cape Canaveral Area	
	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars
Month of May										
Amberjack	675	31	--	--	--	--	150	8	825	38
Barracuda	--	--	--	--	--	--	25	1	25	1
Bluefish	1,150	106	275	27	300	27	--	--	1,725	159
Blue runner	--	--	25	2	25	2	--	--	50	4
Cabio	75	7	--	--	--	--	--	--	75	7
Crevalle (Common jack)	--	--	--	--	--	--	--	--	--	--
Dolphin	25	3	--	--	--	--	--	--	25	3
Drum, black	125	9	50	4	--	--	--	--	175	13
Drum, red	1,375	195	2,125	314	100	15	950	140	4,550	665
Flounders	750	125	--	--	--	--	--	--	750	125
Groupers	11,400	1,191	--	--	--	--	--	--	11,400	1,191
Grunts	--	--	--	--	--	--	--	--	--	--
Jewfish	--	--	--	--	--	--	--	--	--	--
King mackerel	10,950	1,364	--	--	--	--	--	--	10,950	1,364
King whiting	600	55	150	13	25	2	--	--	775	70
Menhaden	275	8	1,825	47	350	9	125	3	2,575	66
Mojarra (Sand perch)	--	--	--	--	--	--	--	--	--	--
Mullet, black	--	--	80,425	3,968	19,625	945	13,950	700	114,000	5,612
Mullet, silver	--	--	75	7	--	--	--	--	75	7
Pigfish	50	4	75	6	--	--	125	10	250	20
Pompano	--	--	3,350	2,240	775	534	--	--	4,125	2,774
Sea bass, black	2,050	209	--	--	--	--	--	--	2,050	209
Sea catfish	--	--	--	--	--	--	--	--	--	--
Sea trout, gray	300	30	225	25	225	24	--	--	750	79
Sea trout, spotted	175	43	23,625	5,772	5,175	1,261	4,075	997	33,050	8,074
Sheepshead	--	--	300	21	175	12	--	--	475	33
Snapper, red	29,100	8,299	--	--	--	--	--	--	29,100	8,299
Snapper, other	225	34	--	--	--	--	--	--	225	34
Spanish mackerel	32,500	3,048	--	--	--	--	--	--	32,500	3,048
Spot	375	38	12,775	1,303	2,750	270	1,125	119	17,025	1,729
Tenpounder	--	--	--	--	--	--	--	--	--	--
Triggerfish	150	9	--	--	--	--	--	--	150	9
Warsaw	225	18	--	--	--	--	--	--	225	18
Unclassified, food	--	--	1,425	96	175	12	450	30	2,050	138
Unclassified, bait	300	7	200	5	75	2	--	--	575	14
Crabs, blue, hard	--	--	98,675	4,984	17,600	886	2,300	115	118,575	5,985
Crabs, blue, soft	--	--	75	38	--	--	--	--	75	38
Crabs, stone	--	--	100	33	--	--	--	--	100	33
Shrimp	3,250	1,577	--	--	--	--	875	464	4,125	2,041
Oysters	--	--	50	15	--	--	--	--	50	15
Squid	25	4	--	--	--	--	--	--	25	4
Scallops, calico	25	10	--	--	--	--	--	--	25	10
Clams, hard	--	--	--	--	--	--	--	--	--	--
Total	96,150	16,424	225,825	18,920	47,375	4,001	24,150	2,587	393,500	41,929
Month of June										
Amberjack	2,575	108	175	5	--	--	400	22	3,150	135
Barracuda	--	--	--	--	--	--	--	--	--	--
Bluefish	225	21	150	14	100	10	--	--	475	45
Blue runner	--	--	--	--	--	--	--	--	--	--
Cabio	275	26	--	--	--	--	--	--	275	26
Crevalle (Common jack)	--	--	--	--	--	--	--	--	--	--
Dolphin	50	7	--	--	--	--	--	--	50	7
Drum, black	100	8	25	2	--	--	--	--	125	10
Drum, red	400	59	1,100	162	--	--	475	70	1,975	292
Flounders	1,075	182	--	--	--	--	--	--	1,075	182
Groupers	11,600	1,274	--	--	--	--	--	--	11,600	1,274
Grunts	--	--	--	--	--	--	--	--	--	--
Jewfish	--	--	--	--	--	--	--	--	--	--
King mackerel	2,625	351	--	--	--	--	--	--	2,625	351
King whiting	1,625	143	250	22	50	4	--	--	1,925	170
Menhaden	450	12	850	23	75	2	25	1	1,400	37
Mojarra (Sand perch)	--	--	--	--	--	--	--	--	--	--
Mullet, black	--	--	82,075	3,976	20,325	1,002	14,175	700	116,575	5,678
Mullet, silver	--	--	--	--	--	--	25	2	25	2
Pigfish	--	--	--	--	--	--	--	--	--	--
Pompano	--	--	5,375	3,560	1,550	1,087	--	--	6,925	4,647
Sea bass, black	1,650	175	--	--	--	--	--	--	1,650	175
Sea catfish	--	--	--	--	25	2	--	--	25	2
Sea trout, gray	375	38	725	81	725	81	50	6	1,875	205
Sea trout, spotted	225	56	25,900	6,343	5,325	1,308	4,650	1,141	36,100	8,847
Sheepshead	--	--	50	4	100	7	--	--	150	10
Snapper, red	33,500	8,918	--	--	--	--	--	--	33,500	8,918
Snapper, other	175	25	--	--	--	--	--	--	175	25
Spanish mackerel	23,000	2,019	--	--	--	--	--	--	23,000	2,019
Spot	450	45	29,675	3,116	5,350	539	1,925	210	37,400	3,910
Tenpounder	--	--	--	--	--	--	--	--	--	--
Triggerfish	175	11	--	--	--	--	--	--	175	11
Warsaw	175	14	--	--	--	--	--	--	175	14
Unclassified, food	--	--	2,725	185	325	22	750	52	3,800	259
Unclassified, bait	525	12	300	7	225	5	--	--	1,050	24
Crabs, blue, hard	--	--	108,800	5,366	17,825	899	2,600	124	129,225	6,388
Crabs, blue, soft	--	--	75	38	--	--	--	--	75	38
Crabs, stone	--	--	--	--	--	--	--	--	--	--
Shrimp	9,400	3,593	--	--	--	--	550	216	9,950	3,809
Oysters	--	--	--	--	--	--	--	--	--	--
Squid	125	19	--	--	--	--	--	--	125	19
Scallops, calico	25	10	--	--	--	--	--	--	25	10
Clams, hard	--	--	--	--	--	--	--	--	--	--
Total	90,800	17,126	258,250	22,904	52,000	4,968	25,625	2,544	426,675	47,539

Table 5.--Continued

Species	Atlantic Ocean		Indian River		Banana River		Halifax River		4-year average Cape Canaveral Area	
	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars
Month of July										
Amberjack	4,075	188	450	18	--	--	1,100	57	5,625	263
Barracuda	25	1	--	--	--	--	--	--	25	1
Bluefish	725	77	375	34	125	13	--	--	1,225	123
Blue runner	25	2	--	--	--	--	--	--	25	2
Cabio	250	22	--	--	--	--	--	--	250	22
Crevalle (Common jack)	--	--	--	--	--	--	--	--	--	--
Dolphin	75	10	--	--	--	--	--	--	75	10
Drum, black	150	11	50	4	50	4	--	--	250	18
Drum, red	1,425	210	2,175	337	75	11	1,075	167	4,750	724
Flounders	875	143	--	--	--	--	--	--	875	143
Groupers	8,175	926	--	--	--	--	--	--	8,175	926
Grunts	50	4	--	--	--	--	--	--	50	4
Jewfish	--	--	--	--	--	--	--	--	--	--
King mackerel	3,525	510	--	--	--	--	--	--	3,525	510
King whiting	3,275	295	425	37	475	40	--	--	4,175	373
Menhaden	2,075	44	1,900	49	350	10	125	4	4,450	106
Mojarra (Sand perch)	--	--	50	3	--	--	--	--	50	3
Mullet, black	--	--	104,025	4,937	25,700	1,206	17,750	845	147,475	6,988
Mullet, silver	--	--	--	--	--	--	25	2	25	2
Pigfish	--	--	300	30	--	--	175	17	475	47
Pompano	--	--	6,550	4,185	1,675	1,127	100	51	8,325	5,363
Sea bass, black	1,200	131	--	--	--	--	--	--	1,200	131
Sea catfish	225	16	--	--	--	--	--	--	225	16
Sea trout, gray	--	--	50	6	25	3	--	--	75	9
Sea trout, spotted	175	42	21,675	5,322	4,650	1,140	3,825	939	30,325	7,443
Sheepshead	--	--	175	15	175	14	--	--	350	29
Snapper, red	18,050	5,137	--	--	--	--	--	--	18,050	5,137
Snapper, other	150	21	--	--	--	--	--	--	150	21
Spanish mackerel	9,125	956	--	--	--	--	--	--	9,125	956
Spot	50	5	17,100	1,802	2,425	245	1,350	149	20,925	2,200
Tenpounder	--	--	--	--	--	--	--	--	--	--
Triggerfish	125	7	--	--	--	--	--	--	125	7
Warsaw	25	2	--	--	--	--	--	--	25	2
Unclassified, food	50	3	2,000	134	225	15	675	44	2,950	195
Unclassified, bait	--	--	--	--	--	--	--	--	--	--
Crabs, blue, hard	--	--	116,100	5,634	19,500	922	2,925	143	138,525	6,699
Crabs, blue, soft	--	--	--	--	--	--	--	--	--	--
Crabs, stone	--	--	--	--	--	--	--	--	--	--
Shrimp	23,925	9,519	--	--	--	--	450	153	24,375	9,672
Oysters	--	--	--	--	--	--	--	--	--	--
Squid	225	34	--	--	--	--	--	--	225	34
Scallops, calico	100	40	--	--	--	--	--	--	100	40
Clams, hard	--	--	--	--	--	--	--	--	--	--
Total	78,150	18,356	273,400	22,547	55,450	4,750	29,575	2,571	436,575	48,219
Month of August										
Amberjack	5,425	236	625	25	--	--	975	47	7,025	308
Barracuda	--	--	--	--	--	--	--	--	--	--
Bluefish	800	64	200	16	200	15	--	--	1,200	95
Blue runner	--	--	--	--	--	--	--	--	--	--
Cabio	150	14	--	--	--	--	--	--	150	14
Crevalle (Common jack)	400	13	25	1	--	--	--	--	425	13
Dolphin	50	6	--	--	--	--	25	3	75	10
Drum, black	50	2	50	4	50	3	--	--	150	9
Drum, red	1,050	167	2,025	305	25	4	850	128	3,950	603
Flounders	900	149	--	--	--	--	--	--	900	149
Groupers	4,000	458	--	--	--	--	--	--	4,000	458
Grunts	--	--	--	--	--	--	--	--	--	--
Jewfish	--	--	--	--	100	8	--	--	100	8
King mackerel	4,450	601	--	--	--	--	--	--	4,450	601
King whiting	1,625	209	350	32	100	8	--	--	2,075	249
Menhaden	1,450	36	2,175	56	475	12	175	4	4,275	108
Mojarra (Sand perch)	25	2	--	--	25	3	--	--	50	5
Mullet, black	--	--	120,300	5,623	29,825	1,383	21,050	988	171,175	7,994
Mullet, silver	--	--	125	11	--	--	75	6	200	17
Pigfish	--	--	75	8	--	--	50	5	125	13
Pompano	--	--	6,800	4,465	1,650	1,148	75	43	8,525	5,656
Sea bass, black	1,025	110	--	--	--	--	--	--	1,025	110
Sea catfish	25	2	--	--	--	--	--	--	25	2
Sea trout, gray	--	--	--	--	--	--	--	--	--	--
Sea trout, spotted	150	36	22,675	5,565	4,800	1,178	3,975	973	31,600	7,751
Sheepshead	--	--	75	6	25	2	--	--	100	9
Snapper, red	12,350	3,641	--	--	--	--	--	--	12,350	3,641
Snapper, other	275	44	--	--	--	--	--	--	275	44
Spanish mackerel	8,600	936	--	--	--	--	--	--	8,600	936
Spot	900	83	34,475	3,664	6,900	679	3,450	371	45,725	4,797
Tenpounder	--	--	--	--	--	--	--	--	--	--
Triggerfish	50	3	--	--	--	--	--	--	50	3
Warsaw	75	7	--	--	--	--	--	--	75	7
Unclassified, food	100	6	3,000	205	325	21	900	59	4,325	290
Unclassified, bait	--	--	--	--	--	--	--	--	--	--
Crabs, blue, hard	--	--	120,175	5,839	22,700	1,080	2,650	133	145,525	7,052
Crabs, blue, soft	--	--	--	--	--	--	--	--	--	--
Crabs, stone	--	--	--	--	--	--	--	--	--	--
Shrimp	21,900	8,673	--	--	--	--	350	144	22,250	8,816
Oysters	--	--	--	--	--	--	--	--	--	--
Squid	150	23	--	--	--	--	--	--	150	23
Scallopa, calico	700	280	--	--	--	--	--	--	700	280
Clams, hard	--	--	--	--	--	--	--	--	--	--
Total	66,675	15,801	313,150	25,825	67,200	5,544	34,600	2,904	481,625	50,071

Species	Atlantic Ocean		Indian River		Banana River		Halifax River		4-year average Cape Canaveral Area	
	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars
Month of September										
Amberjack	950	43	--	--	--	--	400	18	1,350	60
Barracuda	--	--	--	--	--	--	--	--	--	--
Bluefish	200	19	100	10	--	--	--	--	300	29
Blue runner	--	--	--	--	--	--	--	--	--	--
Cabio	50	5	--	--	--	--	--	--	50	5
Crevalle (Common jack)	275	9	225	5	--	--	--	--	500	14
Dolphin	25	3	--	--	--	--	--	--	25	3
Drum, black	350	27	100	7	125	9	175	15	750	59
Drum, red	1,250	187	2,475	365	200	28	1,075	158	5,000	738
Flounders	875	144	--	--	--	--	--	--	875	144
Groupers	3,250	389	--	--	--	--	--	--	3,250	389
Grunts	--	--	--	--	--	--	--	--	--	--
Jewfish	--	--	--	--	--	--	--	--	--	--
King mackerel	1,100	151	--	--	--	--	--	--	1,100	151
King whiting	425	42	250	25	225	24	--	--	900	90
Menhaden	675	17	1,125	28	75	2	25	1	1,900	47
Mojarra (Sand perch)	50	4	--	--	--	--	--	--	50	4
Mullet, black	--	--	119,250	5,823	28,350	1,357	19,900	960	167,500	8,140
Mullet, silver	--	--	--	--	--	--	--	--	--	--
Pigfish	--	--	--	--	--	--	125	13	125	13
Pompano	--	--	3,650	2,465	1,375	941	--	--	5,025	3,406
Sea bass, black	325	38	--	--	--	--	--	--	325	38
Sea catfish	--	--	--	--	--	--	--	--	--	--
Sea trout, gray	--	--	--	--	--	--	--	--	--	--
Sea trout, spotted	100	23	16,025	3,913	3,550	864	2,925	713	22,600	5,513
Sheepshead	--	--	225	14	125	8	--	--	350	21
Snapper, red	13,200	3,820	--	--	--	--	--	--	13,200	3,820
Snapper, other	275	44	--	--	--	--	--	--	275	44
Spanish mackerel	150	17	--	--	--	--	--	--	150	17
Spot	1,600	144	42,475	4,378	9,600	912	5,125	530	58,800	5,964
Tenpounder	--	--	125	4	--	--	--	--	125	4
Triggerfish	75	5	--	--	--	--	--	--	75	5
Warsaw	75	6	--	--	--	--	--	--	75	6
Unclassified, food	50	3	4,175	309	475	35	1,325	100	6,025	447
Unclassified, bait	--	--	--	--	--	--	--	--	--	--
Crabs, blue, hard	--	--	94,300	4,630	16,525	774	2,300	116	113,125	5,520
Crabs, blue, soft	--	--	--	--	--	--	--	--	--	--
Crabs, stone	--	--	--	--	--	--	--	--	--	--
Shrimp	26,550	11,345	--	--	--	--	--	--	26,550	11,345
Oysters	--	--	125	38	--	--	--	--	125	38
Squid	75	11	--	--	--	--	--	--	75	11
Scallops, calico	--	--	--	--	--	--	--	--	--	--
Clams, hard	--	--	--	--	--	--	--	--	--	--
Total	51,950	16,496	284,625	22,014	60,625	4,954	33,375	2,624	430,575	46,085
Month of October										
Amberjack	50	2	--	--	--	--	--	--	50	2
Barracuda	--	--	--	--	--	--	--	--	--	--
Bluefish	225	35	175	19	--	--	--	--	400	44
Blue runner	--	--	--	--	--	--	--	--	--	--
Cabio	--	--	--	--	--	--	--	--	--	--
Crevalle (Common jack)	725	22	25	1	--	--	--	--	750	23
Dolphin	--	--	--	--	--	--	--	--	--	--
Drum, black	475	35	150	11	250	18	100	8	975	72
Drum, red	1,850	275	3,150	458	250	36	1,450	205	6,700	974
Flounders	3,725	570	50	8	25	4	25	4	3,825	585
Groupers	1,500	185	--	--	--	--	--	--	1,500	185
Grunts	--	--	--	--	--	--	--	--	--	--
Jewfish	25	2	--	--	--	--	--	--	25	2
King mackerel	625	83	--	--	--	--	--	--	625	83
King whiting	6,950	600	1,025	91	475	41	50	5	8,500	735
Menhaden	1,775	46	2,350	66	25	1	--	--	4,150	113
Mojarra (Sand perch)	--	--	--	--	--	--	--	--	--	--
Mullet, black	--	--	127,900	6,232	31,775	1,566	21,425	1,052	181,100	8,850
Mullet, silver	--	--	--	--	--	--	--	--	--	--
Pigfish	--	--	275	28	--	--	200	20	475	48
Pompano	--	--	2,725	1,944	425	276	--	--	3,150	2,220
Sea bass, black	350	42	--	--	--	--	--	--	350	42
Sea catfish	25	1	--	--	--	--	--	--	25	1
Sea trout, gray	25	3	--	--	--	--	--	--	25	3
Sea trout, spotted	150	36	19,225	4,704	4,150	1,014	3,325	814	26,850	6,568
Sheepshead	--	--	775	59	500	38	--	--	1,275	96
Snapper, red	7,125	2,175	--	--	--	--	--	--	7,125	2,175
Snapper, others	75	10	--	--	--	--	--	--	75	10
Spanish mackerel	150	18	--	--	--	--	--	--	150	18
Spot	2,150	185	42,900	4,185	11,850	1,079	4,400	426	61,300	5,875
Tenpounder	--	--	75	3	--	--	--	--	75	3
Triggerfish	--	--	--	--	--	--	--	--	--	--
Warsaw	175	13	--	--	--	--	--	--	175	13
Unclassified, food	25	2	3,525	262	400	30	1,050	79	5,000	373
Unclassified, bait	225	5	100	2	150	4	--	--	475	11
Crabs, blue, hard	--	--	88,850	4,486	13,450	659	2,500	128	104,800	5,272
Crabs, blue, soft	--	--	--	--	--	--	--	--	--	--
Crabs, stone	--	--	250	92	75	29	--	--	325	121
Shrimp	173,450	66,738	--	--	--	--	75	45	173,525	66,783
Oysters	--	--	1,975	593	--	--	75	23	2,050	616
Squid	575	86	--	--	--	--	50	15	625	102
Scallops, calico	--	--	--	--	--	--	--	--	--	--
Clams, hard	--	--	--	--	--	--	--	--	--	--
Total	202,425	71,159	295,500	23,244	63,800	4,795	34,725	2,824	596,450	102,018

Month of November

Species	Atlantic Ocean		Indian River		Banana River		Halifax River		4-year average Cape Canaveral Area	
	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars
Amberjack	--	--	--	--	--	--	--	--	--	--
Barracuda	--	--	--	--	--	--	--	--	--	--
Bluefish	375	39	100	10	75	8	50	6	600	63
Blue runner	--	--	--	--	--	--	--	--	--	--
Cabio	--	--	--	--	--	--	--	--	--	--
Crevalle (Common jack)	125	3	--	--	--	--	--	--	125	3
Dolphin	--	--	--	--	--	--	--	--	--	--
Drum, black	1,150	86	550	46	500	37	475	36	2,675	204
Drum, red	1,925	276	4,800	677	425	60	2,200	309	9,350	1,322
Flounders	7,450	1,169	50	8	25	4	25	4	7,550	1,185
Groupers	2,450	288	--	--	--	--	--	--	2,450	288
Grunts	200	16	50	4	--	--	50	4	300	24
Jewfish	25	2	--	--	--	--	--	--	25	2
King mackerel	4,450	602	--	--	--	--	--	--	4,450	602
King whiting	34,100	2,971	5,900	507	2,100	181	100	9	42,200	3,668
Menhaden	675	18	1,700	41	475	11	175	4	3,025	74
Mojarra (Sand perch)	--	--	--	--	--	--	--	--	--	--
Mullet, black	--	--	131,075	6,255	31,000	1,503	22,450	1,081	184,525	8,839
Mullet, silver	--	--	--	--	--	--	--	--	--	--
Pigfish	--	--	--	--	--	--	--	--	--	--
Pompano	--	--	1,250	933	175	129	--	--	1,425	1,062
Sea bass, black	125	14	--	--	--	--	--	--	125	14
Sea catfish	--	--	--	--	--	--	--	--	--	--
Sea trout, gray	--	--	--	--	75	8	--	--	75	8
Sea trout, spotted	200	48	22,125	5,302	4,950	1,188	3,975	957	31,250	7,495
Sheepshead	--	--	1,525	116	1,050	78	--	--	2,575	193
Snapper, red	12,600	3,778	--	--	--	--	--	--	12,600	3,778
Snapper, others	75	12	--	--	--	--	--	--	75	12
Spanish mackerel	1,425	135	--	--	--	--	--	--	1,425	135
Spot	375	34	8,075	858	2,075	196	1,150	122	11,675	1,209
Tenpounder	--	--	--	--	--	--	--	--	--	--
Triggerfish	--	--	--	--	--	--	--	--	--	--
Warsaw	--	--	--	--	--	--	--	--	--	--
Unclassified, food	--	---	2,500	166	300	20	850	57	3,650	242
Unclassified, bait	--	--	--	--	--	--	--	--	--	--
Crabs, blue, hard	--	--	80,650	4,099	14,925	739	1,675	86	97,250	4,924
Crabs, blue, soft	--	--	--	--	--	--	--	--	--	--
Crabs, stone	--	--	900	324	250	105	--	--	1,150	429
Shrimp	329,200	144,783	--	--	--	--	100	58	329,300	144,841
Oysters	--	--	2,475	722	--	--	200	61	2,675	783
Squid	725	108	--	--	--	--	125	38	850	146
Scallops, calico	--	--	--	--	--	--	--	--	--	--
Clams, hard	--	--	--	--	--	--	--	--	--	--
Total	397,650	154,382	263,725	20,068	58,400	4,267	33,600	2,832	753,375	181,545

Month of December

Amberjack	--	--	--	--	--	--	--	--	--	--
Barracuda	--	--	--	--	--	--	--	--	--	--
Bluefish	950	80	225	19	225	19	25	3	1,425	121
Blue runner	--	--	--	--	--	--	--	--	--	--
Cabio	50	5	--	--	--	--	--	--	50	5
Crevalle (Common jack)	125	4	--	--	--	--	--	--	125	4
Dolphin	--	--	--	--	--	--	--	--	--	--
Drum, black	575	46	475	40	300	24	275	22	1,625	131
Drum, red	2,100	315	7,175	1,018	575	76	3,175	444	13,025	1,853
Flounders	6,850	1,032	25	4	--	--	25	4	6,900	1,039
Groupers	4,075	478	--	--	--	--	--	--	4,075	478
Grunts	875	66	75	6	--	--	75	6	1,025	78
Jewfish	325	23	125	10	75	6	--	--	525	39
King mackerel	28,650	3,797	--	--	--	--	--	--	28,650	3,797
King whiting	55,225	4,754	7,000	566	3,525	310	150	13	65,900	5,643
Menhaden	525	14	2,100	60	150	3	75	2	2,850	79
Mojarra (Sand perch)	--	--	--	--	25	2	--	--	25	2
Mullet, black	--	--	70,125	3,337	17,575	852	11,450	545	99,150	4,734
Mullet, silver	--	--	--	--	--	--	--	--	--	--
Pigfish	--	--	--	--	--	--	--	--	--	--
Pompano	--	--	275	204	75	56	--	--	350	260
Sea bass, black	550	73	--	--	--	--	--	--	550	73
Sea catfish	--	--	--	--	--	--	--	--	--	--
Sea trout, gray	25	3	--	--	125	13	--	--	150	16
Sea trout, spotted	825	180	34,725	8,058	7,000	1,603	6,125	1,416	48,675	11,257
Sheepsbead	25	2	525	38	400	28	--	--	950	67
Snapper, red	19,575	5,732	--	--	--	--	--	--	19,575	5,732
Snapper, other	400	74	--	--	--	--	--	--	400	74
Spanish mackerel	75	9	--	--	--	--	--	--	75	9
Spot	--	--	4,175	480	275	32	725	83	5,175	595
Tenpounder	--	--	--	--	--	--	--	--	--	--
Triggerfish	--	--	--	--	--	--	--	--	--	--
Warsaw	--	--	--	--	--	--	--	--	--	--
Unclassified, food	--	--	1,250	87	150	10	425	27	1,825	123
Unclassified, bait	--	--	--	--	--	--	--	--	--	--
Crabs, blue, hard	--	--	76,350	3,881	11,600	575	2,025	104	89,975	4,560
Crabs, blue, soft	--	--	--	--	--	--	--	--	--	--
Crabs, stone	--	--	425	146	25	10	--	--	450	156
Shrimp	449,650	184,128	--	--	--	--	100	50	449,750	184,178
Oysters	--	--	2,975	896	--	--	350	107	3,325	1,003
Squid	250	38	--	--	--	--	150	46	400	84
Scallops, calico	--	--	--	--	--	--	--	--	--	--
Clams, hard	--	--	--	--	--	--	--	--	--	--
Total	571,700	200,853	208,025	18,850	42,100	3,619	25,150	2,872	846,975	226,190

exceeded by shrimp, spotted sea trout, mullet, and red snapper (tables 4 and 5). The principal gear is Chesapeake Bay-type crab traps. The area is reported to produce fine blue crabs that yield an average of 14-17 percent meat.

Biology of the blue crab has not been studied in the Cape Canaveral Area. There follow some general statements regarding the biology of the blue crab in Chesapeake Bay (Van Engel, 1958) which we believe would apply, at least partly, to the Cape Canaveral Area. Mating of blue crabs begins in the spring and continues until fall. Spermatozoa will live in the female receptacles at least a year and are used as often as spawning occurs--which may be twice or more. "Spawning is delayed at least two months after mating, and occurs from early May through September. Eggs are carried on the abdomen of the female for about two weeks before hatching." Numbers of eggs in the sponges may vary from about 700,000 to over 2 million. "Many of the eggs do not hatch, and still fewer larvae and very small crabs live to become adults. On the average only one ten-thousandth of one percent (0.000001) of the eggs survive to become mature crabs."

"There are two larval stages--four or five zoeal molts and the megalops--lasting about a month. Adult size may be reached in one year to a year and a half, shedding 18 or more times after the last larval stage.

"The diet of blue crabs includes fresh and decaying fish or meat, and vegetation. Young sets of clams and oysters may occasionally be destroyed, but on ground in open waters the blue crab is not generally considered a serious pest."

Spot

The fishery for spot is more seasonal than the fisheries for black mullet, spotted sea trout, and blue crab. The months of highest average landings are August, September, and October, and the lowest, December through March. Spot ranks fifth in poundage of the Cape Canaveral Area fisheries (4-year average of 272,725 pounds), exceeded by mullet, shrimp, blue crab, and spotted sea trout; and seventh in value (4-year average of $27,784), exceeded by shrimp, spotted sea trout, mullet, red snapper, blue crab, and pompano (tables 4 and 5). Most of the catch is made with gill nets. Little research has been done on the biology of the species.

Pompano

The pompano fishery can be considered seasonal, with highest production in the months of May through September and lowest during the winter. Pompano ranks eighth in poundage of the Cape Canaveral Area fisheries (4-year average of 42,050 pounds) and sixth in value (4-year average of $28,372) (tables 4 and 5). Fishing is by gill nets and hook and line. This is a specialty fishery, and the species brings a very high price per pound. Most of the production comes from Indian River.

Our knowledge of the biology of the species is scant. Fields (1962) described the larval and jevenile stages and presented some data in support of the belief that the common pompano (Trachinotus carolinus) spawns in the open ocean near the Gulf Stream. In southern Georgia the young pompano first appear on the beaches in late April or early May at a length of about 11-20 mm.--recruitment of young continues until October.

Shrimp

There is no commercial fishery for shrimp in the inside waters of the Cape Canaveral Area. However, a major bait shrimp fishery exists but is unrecorded in any statistical tabulations. De Sylva (1954) indicated there were probably 400 to 600 bait shrimp fishermen in the Cape Canaveral Area catching more than $250,000 worth annually. The principal types of gear are push nets, dip nets, and cast nets. A few of the fishermen are regular fishermen, but the majority are casual.

Miscellaneous

Two species not included in the dominant group are worthy of special mention.

Although the production of oysters is not large (4-year average production of 20,850 pounds of meats worth $6,211), the species grows well on many small, natural oyster reefs in the inland waterway section. The state has granted several private leases in the past 2 years, and these leased grounds have been planted. Few oysters have been harvested from them as yet, but the planters' interest is high.

The red drum or redfish (4-year average landings of 71,575 pounds worth $10,310) is an important species in the sport fishery in addition to the commercial catch (which is made largely with trammel nets).

ATLANTIC OCEAN ADJACENT TO COAST

The fishing grounds in this geographic subdivision lie within a few miles of the coast and are most productive near Ponce de Leon Inlet and south of Cape Canaveral to Melbourne. Sand and shell bottoms predominate with some areas of mud or clay off Ponce de Leon Inlet and south of Cape Canaveral.

Of the eight dominant species in the Cape Canaveral Area fisheries, shrimp and king-whiting comprise fisheries in this geographic subdivision. The commercial shrimp fishery is carried on exclusively in these waters, and over 80 percent of the king whiting are captured here (table 5).

Shrimp

The shrimp fishery, while producing some poundage the year round, can be considered seasonal. The great bulk of the landings are made during the months of October through January, and the fishery is at low ebb from April through June. Shrimp ranks second in poundage of the Cape Canaveral Area fisheries (4-year average of 1,377,650 pounds), exceeded only by black mullet, and first in value (4-year average of $546,718)--the dollar value of shrimp is more than the value of all other species combined (tables 4 and 5). Fishing is done from shrimp trawlers employing shrimp or otter trawls.

Three species of shrimp--white, brown, and pink--are landed by shrimp vessels fishing in the Cape Canaveral Area. These shrimp are all members of genus Penaeus of the family Penaeidae. On the east coast of Florida the white shrimp is of greatest importance and comprises about 80 percent of the landings; brown shrimp account for about 19 plus percent; and pink shrimp for probably less than 1 percent. In the Cape Canaveral Area the percentage of white shrimp is at least this high, and perhaps higher.

Bureau of Commercial Fisheries research has provided a great deal of knowledge about the biology of the white shrimp. A resume based on Anderson (1958b) and Lindner and Anderson (1956) follows.

(1) Habitat.--The white shrimp is most aboundant in areas characterized by having an inland, brackish marsh connected by passes with an adjacent shallow, offshore area of relatively high salinity and mud or clay bottoms.

(2) Spawning.--Eggs are laid directly into the water and are apparently fertilized on emission by spermatozoa contained in a capsule called a spermatophore which the male had attached to the body of the female. A female will produce 500,000 - 1 million eggs at a spawning--some females probably spawn more than once in a season. Most, if not all, spawning takes place at sea and occurs mainly from late March or early April to the end of September.

(3) Eggs and larvae.--The eggs are about 0.3 mm. in diameter and demersal. Eggs hatch in 20 to 24 hours, and the nauplius emerges and becomes planktonic. Larval development requires from 2 to 3 weeks. After 15 to 20 days and two postlarval stages, the young shrimp is only about 5 to 6 mm. long. During this period of early development the young shrimp moves from the saline offshore spawning areas to the brackish inside marshes and estuaries--which serve as nursery grounds.

(4) Young shrimp.--As the young grow, they move from the shallow waters of the marsh into the deeper creeks, rivers, and bays, making their first appearance on the inside fishing grounds in June or July (depending upon the area) when about 50 mm. (about 2 inches) long. By July or August they begin to appear in outside waters.

(5) Growth.--Growth is rapid during spring, summer, and early fall, and slow or negligible during winter. There is evidence that shrimp reach 75 mm. (about 3 inches) in total length approximately 2 months after spawning. A shrimp spawned on May 1 would reach a length of over 150 mm. (about 6 inches) by November 1, grow little over the winter, resume growth in the spring, and be about 178 mm. (7 inches) long by May 1. It would mature and spawn during the spring season, at about 1 year of age.

(6) Migrations.--In the south Atlantic area, the bulk of the white shrimp migrate from inshore to offshore waters but do not move into very deep water far from the coast. Instead, they move parallel to the shoreline with the seasons, moving southward during the fall and early winter and northward in late winter and early spring. Hence, many of the shrimp taken in the Cape Canaveral Area during late fall and winter have migrated there from the Carolinas, Georgia, and north Florida--and any remaining after the winter move northward again to those areas.

(7) Longevity.--Mortality of shrimp is apparently high, and the number that live more than 1 year is only a small part of the total population, and probably of minor importance. Some shrimp live as long as 16 months and possibly longer, but as far as the fishery is concerned, the common or white shrimp can be considered an annual.

King whiting

The fishery for king whiting is, to a large extent, incidental to the shrimp fishery and therefore seasonal. As with shrimp, the bulk of the landings are made from late fall through the winter and lowest landings occur during spring and summer. King whiting ranks seventh in poundage of the Cape Canaveral fisheries (4-year average of 247,100 pounds) and eighth in value (4-year average of $20,951), tables 4 and 5.

We have limited knowledge of the life history of the species--no research has been done in the Cape Canaveral Area on this fish.

ATLANTIC OCEAN, 10 to 50 FATHOMS

In this geographic subdivision the fishing grounds are principally reef areas. These reefs fall into two general categories: (1) Those lying between 10 and 20 fathoms and (2) those on the outer slope of the Continental Shelf from about 30 to 50 fathoms.

Moe (1963) made a detailed study of these reefs and their utilization in relation to fishing. Based on his work, figure 2 shows the location and extent of the principal reef areas, which we have numbered. Table 6 gives Moe's description of each (from his tables 1 through 5).

Only one of the eight dominant species in the Cape Canaveral Area fisheries, red snapper, is taken in this geographic subdivision.

Red Snapper

The red snapper fishery operates year round, but the period of highest production is January-June--the lowest production occurs August-November. Red snapper ranks sixth in poundage of the Cape Canaveral Area fisheries (4-year average of 251,475 pounds) and fourth in value (4-year average of $72,206), exceeded by shrimp, spotted sea trout, and mullet (tables 4 and 5). Fishing is by handlines and exclusively on the reef grounds (fig. 2). Red snappers normally inhabit banks, reefs, and lumps where small fish, crabs, shrimp, etc., provide abundant food. They seem to move from one location to another, and this movement is probably related to food supply. We know little of the life history of the species.

Closely associated with the red snapper, and taken by the same fishery, are several members of the sea bass family. The most important of these are black sea bass and groupers. During the 4-year period 1959-62 the average catch of black sea bass was 12,525 pounds worth $1,383, and of groupers, 68,225 pounds worth $7,686.

Scallops

Bureau of Commercial Fisheries explorations off the central Florida east coast have found an extensive bed of calico scallops off the Cape Canaveral Area in about 10 to 40 fathoms (fig. 3). Bullis and Cummins (1961) reported catch rates with modified 8- and 10-foot Georges Bank sea-scallop dredges as high as 78 bushels per hour, but average production during simulated commercial production trials was about 20-40 bushels per hour. While no large commercial operation exists at the time of this report, fishing interests are working on mechanical shuckers, and a valuable fishery could soon evolve.

PELAGIC

Three species of fish of interest to both commercial and sport fisheries are worthy of special note. These are, in order of importance in the commercial fishery: King mackerel, 4-year average of 69,650 pounds worth $9,210; Spanish mackerel, 4-year average of 84,525 pounds worth $8,004; and bluefish, 4-year average of 12,150 pounds worth $1,190. These species are captured largely by trolling and by gill nets in the open ocean, mainly inside of 10 fathoms. Heaviest commercial landings are in the spring and winter for king mackerel, spring and early summer for Spanish mackerel, and in the spring for bluefish (table 5).

King Mackerel

Little is known of the life history of this important game fish. King mackerel are migratory, apparently concentrating on the east coast of Florida in the winter and expanding their distribution northward and westward along the Atlantic and Gulf coasts in spring and summer.

Spanish Mackerel

We know little of the biology of Spanish mackerel, which is also an important game fish. The species is schooling in habit and migratory. Spanish mackerel appear to concentrate during the winter along the east coast of Florida, and beginning in the spring and continuing through the summer expand their distribution northward and westward along the Atlantic and Gulf coasts. During the fall they begin to return to the wintering grounds along the Florida east coast. We believe that Spanish mackerel spawn in the open ocean during the summer migrations.

Bluefish

The biology and habits of the bluefish are not well known. Bluefish sometimes travel in dense schools and feed voraciously on small fish. Their migrations are erratic. In general, bluefish appear to move northward in the spring and southward in autumn, being taken in the winter in southern Florida, off the Carolinas in the spring, off Massachusetts in late spring and early summer, back in the Carolinas by about November, and again on the east coast of Florida by late November or December. We believe that bluefish spawn about May or June in offshore waters, and the young come inshore shortly after.

Table 6.--Reef areas in Cape Canaveral Area utilized as fishing grounds. Area numbers refer to locatioos shown oa figure 2. Except for the area numbers, these data are extracts from tables 1 through 5 of Moe (1963)

Area	Local Name	Location	Depth	Bottom composition, topography	Fishes taken*	Seasonality: Most fished season	Seasonality: Most productive season	Fishing effort**
1		29°02' to 29°08' N. 80°37' to 80°44' W.	9 to 12 fathoms	Large area of gently rolling bottom and scattered low flat rock and shell; heavy invertebrate growth.	Red snapper Sea bass Spanish mackerel King mackerel Bonito	Summer	Summer	Heavy Occasionally fished by commercial vessels.
2	Party Grounds	29°07' to 29°11' N. 80°33' to 80°37' W.	13 to 14 fathoms	A ridge of rock with a 1 to 2 fathom drop facing the S.W. Surrounding bottom of sand and shell; coral growth on the rocks.	Red snapper Sea bass Red grouper Black grouper	Summer	Summer	Heavy
3	East Ridge	29°07' to 29°13' N. 80°31' W.	13 to 14 fathoms	Length of exposed rock reef lying parallel to the 100 fathom contour; steep cliff facing offshore at N. and S. end. Sand and shell surround the area and are found in breaks in the reef.	Red snapper Sea bass Red grouper Black grouper	Summer	Spring Summer	Heavy
4	Half North and East "11" Grounds	29°02' to 29°05' N. 80°29' to 80°33' W.	11 to 13 fathoms	Several cliffs in the area. They face the S.W. and drop from 1 or 2 fathoms. The longer ridges are about 2 miles long. Reefs are surrounded by sand and shell bottom.	Sea bass Red snapper Red grouper Black grouper	Summer	Summer	Heavy
5	Turtle Mound Grounds	28°57' to 29°01' N. 80°24' to 80°33' W.	8 to 14 fathoms	Extensive area of rolling sand bottom with many scattered low rocks. The main reef forms a semicircle facing the S.E.	Sea bass Red snapper Red grouper Black grouper Grunt	Summer	Summer	Heavy
6		28°50' to 29°35' N. 80°11' W.	23 to 34 fathoms	Long reef of limestone rock that lies parallel to the 100 fathom contour in about 26 fathoms; this reef has many crevices and cliffs and is stronger with fewer interruptions in this area than elsewhere along the coast.	Red snapper Red grouper Black grouper Grunt	Winter Spring	Winter Spring	Heavy
7	Kingfish Grounds	28°32' to 28°38' N. 80°17' to 80°24' W.	3 to 11 fathoms	Shallow areas with grass bottom merging into sand and shell; few low rocks, uneven bottom.	King mackerel Bonito Spanish mackerel Dolphia	Summer	Summer	Moderate
8	Party Grounds	28°27' N. 80°17' W.	16 to 17 fathoms	Small cliff about 1/2 mile long, 1 fathom drop facing toward the N.E.; sand and shell surrounding rock; coral growth.	Red snapper Red grouper Grunt Black grouper Trigger fish	Summer	Summer	Slight
9	Inshore Grounds Melbourne Grounds	27°50' to 28°27' N. 80°08' to 80°21' W.	11 to 19 fathoms	Hard sand bottom with shell and gravel. Coral rock relief up to 10' with a few 15' ledges--highest relief in 14 fathoms, low scattered rock in the 12 and 16 fathom depths.	Red snapper Red grouper Vermilion snapper Black grouper	Summer	Summer	Heavy
9A	The Wreck	28°23' N. 80°17' W.	7 fathoms	Shipwreck oo hard sand bottom with scattered coral rock.	Red snapper Red grouper Cobia Amberjack	Winter	Summer	Heavy
9H	First Ridge, Pelican Grounds	28°13' to 28°19' N. 80°16' W.	12 to 13 fathoms	Generally a flat bottom of sand and low coral rock; many corals and other invertebrates present. A coral rock reef with ledges up to 5 and 7 feet is present on the western edge of the area.	Red snapper Red grouper Black grouper Grunt King mackerel	Summer	Summer	Moderate
9C	72 foot ridge	27°59' to 28°13' N. 80°12' to 80°15' W.	12 to 14 fathoms	Reef of coral rock lying parallel to the coast in 72 feet of water; the inshore side has a steep cliff of 2 fathoms and the offshore side slopes downward more gradually; heavy coral growth, ragged relief.	Red snapper Red grouper Grunt Triggerfish Vermilion snapper	Summer	Summer	Moderate
9D	Horseshoe Ridge	28°09' N. 80°16' to 80°19' W.	12 to 13 fathoms	A crescentric ridge of sand and low coral rock with the horns pointing N. Generally flat bottom of sand and shell.	Red snapper Red grouper Grunt Sea bass Triggerfish	Summer	Summer	Moderate
10	Second Ridge	28°09' to 28°18' N. 80°11' W.	19 to 21 fathoms	Irregular hard bottom of sand and shell; a reef of coral rock with 6 to 10 foot ledges lies parallel to the coast in this area. High coral growth.	Red snapper Red grouper Grunt Sea bass Vermilion snapper	Summer	Summer	Moderate
11		28°00' to 28°30' N. 80°00' W.	35 to 50 fathoms	Ridge of highly irregular coral rock lying parallel to the 100 fathom contour. The reef has many steep cliffs and ledges. 15 to 20 feet is the usual relief. Slopes steeply toward deep water. High coral growth.	Red snapper Vermilion snapper Red grouper Trigger fish	Winter	Winter	Moderate
12		28°05' N. 80°04' W.	29 to 30 fathoms	Small area of flat coral rock bottom with a sharp 2 fathom drop on the offshore side; sponge and coral growths.	Red snapper Vermilion snapper Black grouper Red grouper	Winter	Winter	Slight

* Fishes retained by the boat listed in relative order of abundance in the total catch.
** Four levels: Intense; Heavy; Moderate; Slight.

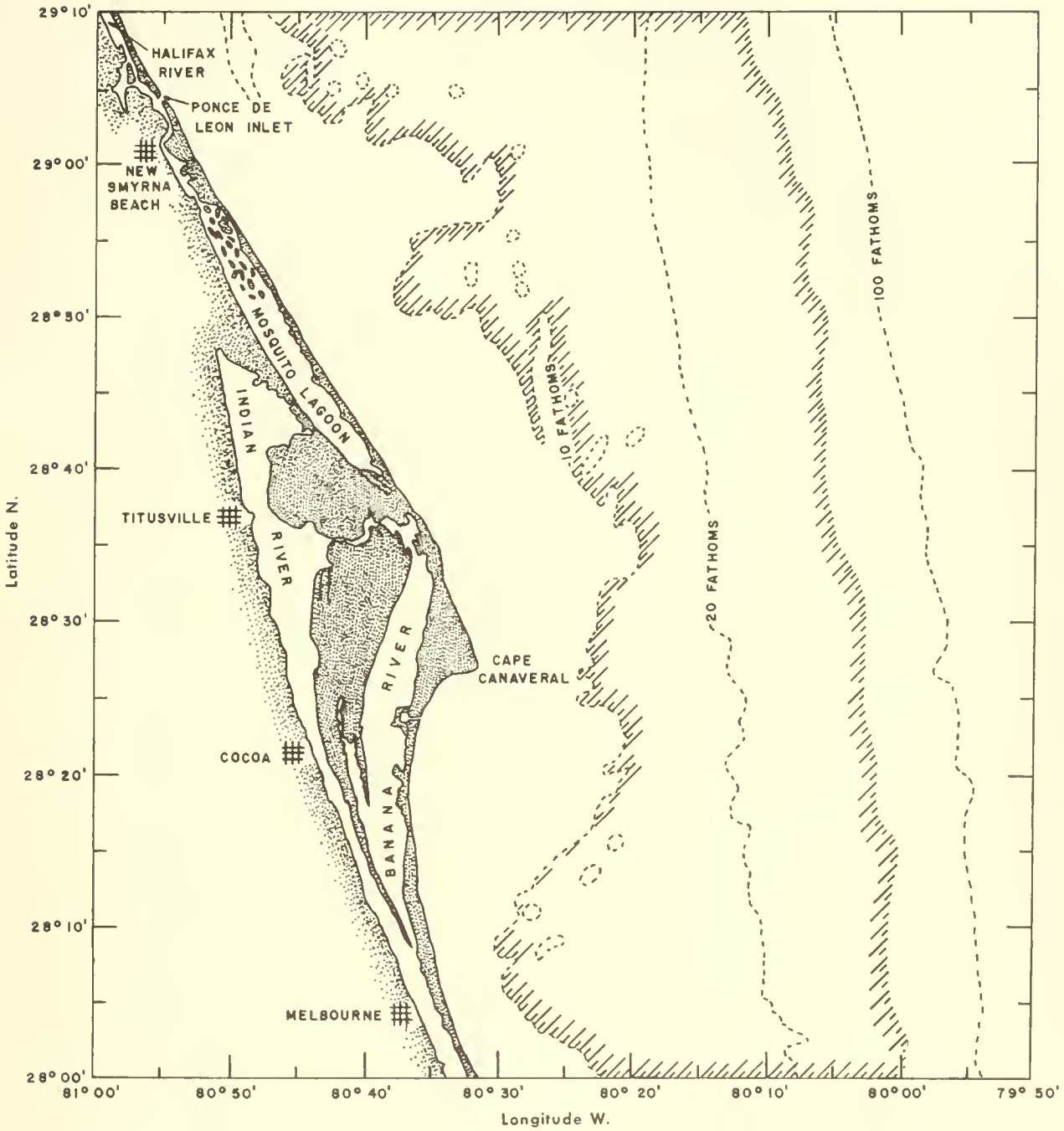


Figure 3.--Cape Canaveral Area. Extent of scallop beds shown as area enclosed by hatched lines (area between about 10 and 40 fathoms).

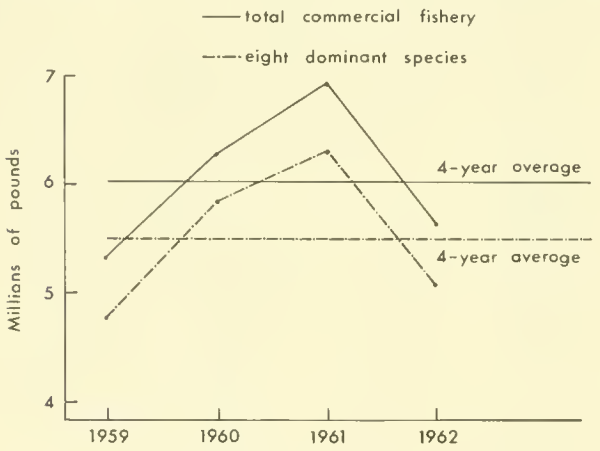
GENERAL

Figure 4 shows, for the 4 years, the total landings and value of the Cape Canaveral Area commercial fisheries and the same information for the combined landings and values for the eight dominant species. These figures do not show any definite trends, as 1959 and 1962 are below the 4-year average and 1960 and 1961 are above it. Although 1962 was not so productive a year as either 1960 or 1961, it was above 1959--the same general condition prevailed with regard to the combined figures for the eight dominant species.

Considering the landings individually for the eight dominant species (fig. 5 and table 4), we

find that shrimp, blue crab, whiting, and pompano follow the pattern of the total fishery--1960 and 1961 above the 4-year average, 1959 and 1962 below it, but with 1962 having greater landings than 1959. For black mullet, 3 years (1959, 1961, and 1962) had landings greater than the 4-year average, and the largest landings occurred in 1962. Landings of spotted sea trout were above the 4-year average in 1959, 1960, and 1961 and below it in 1962. Spot landings were above the 4-year average in 1959 and 1960 and below it in 1961 and 1962. Landings of red snapper were above the 4-year average in 1959 and 1962 and below it in 1960 and 1961.

Of the eight dominant species only one, red snapper, had the highest landings in 1959. Greatest landings for shrimp, spotted sea trout, spot, and pompano occurred in 1960; for blue crab and king whiting in 1961; and for black mullet in 1962. Lowest landings by year were: shrimp, blue crab, whiting, and pompano in 1959; black mullet in 1960; red snapper in 1961; and spotted sea trout and spot in 1962.



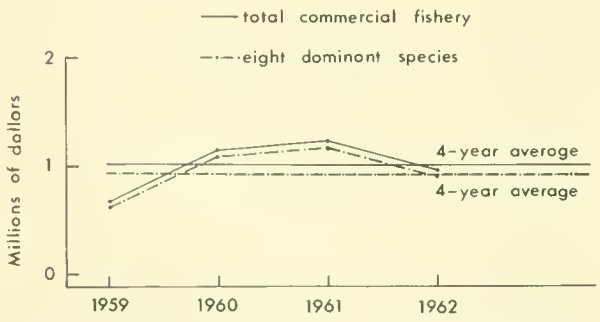
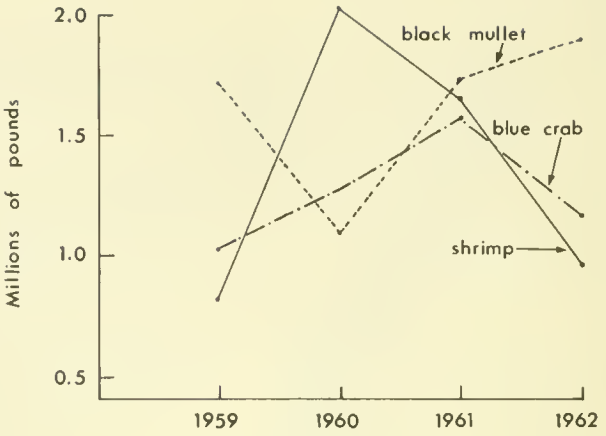


Figure 4.--Commercial fishery landings, Cape Canaveral Area, pound and dollar values by years, with 4-year averages, for total fishery and for eight dominant species combined.



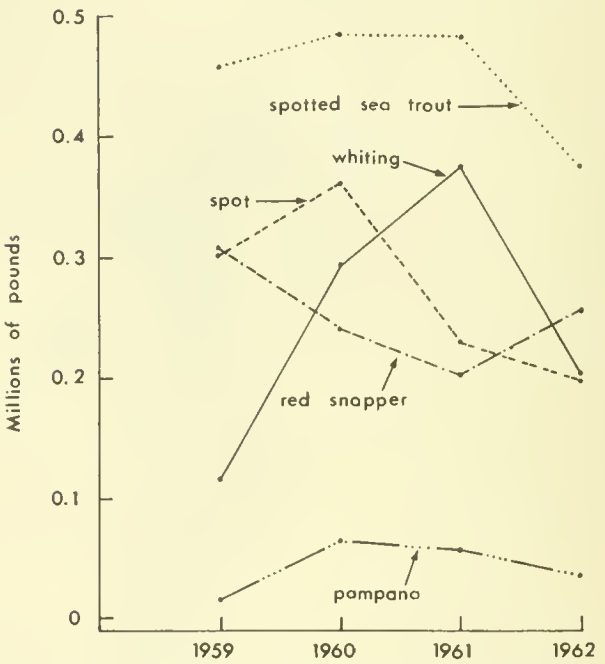


Figure 5.--Commercial fishery landings, Cape Canaveral Area, in pounds by years, for eight dominant species.

Figure 6 shows, by 5-year intervals from 1940 to 1960 and for 1962, the commercial landings of five leading species on the Florida east coast.

From a high in 1945, production of shrimp and black mullet has generally declined to the 4-year period 1959-62 for which we have detailed data for the Cape Canaveral Area--and we assume that the Cape Canaveral Area fishery for these two important species reflects this lower level of availability or demand, as the Cape Canaveral Area contributes about 19 percent of the shrimp and 66 percent of the mullet taken on the Florida east coast.

The blue crab fishery has undergone steady growth on the Florida east coast from 1940 to

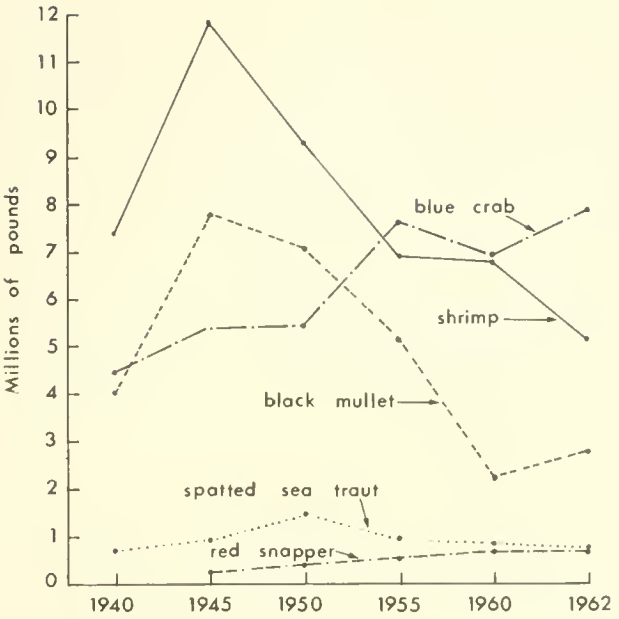


Figure 6.--Commercial fishery landings, Florida east coast, 5-year intervals from 1940 to 1960, and 1962, for five leading species.

the present, and we believe crab production in the Cape Canaveral Area reflects this.

Production of spotted sea trout on the Florida east coast has been remarkably steady. Other than in 1950, the commercial production was between about 700,000 and 900,000 pounds. As the Cape Canaveral Area produces almost 50 percent of the poundage taken on the Florida east coast, it appears that the fishery has remained almost stable in recent years, but there is an indication of a gradual decline in productivity during the past several years.

Landings of red snapper, while modest in poundage, have grown steadily on the Florida east coast from 1945 to the present. Since the Cape Canaveral Area produces about 40 percent of the landings, the fishery is apparently in a healthy state.

Table 7 shows the relative value and landings of the Cape Canaveral Area fisheries to these values for the entire Florida east coast, with respect to five of the most important species taken on the Florida east coast, and to the total fishery landing for 1962--the last year for which figures are available.

The scientific names for fishes, crustaceans, and mollusks appearing in the commercial fishery landings are given in table 8.

Table 7.--Commercial fishery landings, Cape Canaveral Area, comparison with Florida east coast values and landings for five leading species, 1962

Rank	Species	Value Florida East Coast (Dollars)	Value Cape Canaveral Area (Dollars)	Percent of Florida East Coast value
1	Shrimp	2,543,000	518,000	20.4
2	Blue crab	434,000	63,000	14.5
	Red snapper	190,000	77,000	40.5
4	Spotted sea trout	184,000	91,000	49.4
5	Black mullet	139,000	93,000	66.9
	All species	5,965,000	977,000	16.4

Rank	Species	Landings Florida East Coast (Pounds)	Landings Cape Canaveral Area (Pounds)	Percent of Florida East Coast landings
1	Blue crab	7,869,000	1,154,000	14.7
2	Shrimp	5,186,000	967,000	18.6
3	Black mullet	2,856,000	1,902,000	66.6
4	Spotted sea trout	756,000	376,000	49.7
5	Red snapper	639,000	258,000	40.4
	All species	67,290,000	5,643,000	8.4

Table 8.--Scientific names of fishes, crustaceans, and mollusks shown on commercial fishery landings, Cape Canaveral Area

Common names as used in report	Other common names	Scientific names
Amberjack	--	Seriola sp.
Barracuda	--	Sphyraena sp.
Bluefish	--	Pomatomus saltatrix
Blue runner	Crevalle, hardtail	Caranx crysos
Cabio	Cobia	Rachycentron canadum
Crevalle	Common jack, jackfish	Caranx hippos
Dolphin	--	Coryphaena hippurus
Drum, black	Drum	Pogonias cromis
Drum, red	Channel bass, redfish	Sciaenops ocellata
Flounders	--	Paralichthys sp.
Groupers	--	Epinephelus sp. and Mycteroperca sp.
Grunts	Margate fish	Haemulon sp.
Jewfish	--	Epinephelus itajara
King mackerel	Kingfish	Scomberomorus cavalla
King whiting	Whiting	Menticirrhus sp.
Menhaden	Pogy	Brevoortia sp.
Mojarra	Sand perch, sand bream	GERRIDAE
Mullet, black	Striped or jumping mullet	Mugil cephalus
Mullet, silver	--	Mugil curema
Pigfish	--	Orthopristis chrysopterus
Pompano	--	Trachinotus sp.
Sea bass, black	Blackfish	Centropristis striatus
Sea catfish	Gafftopsail	Bagre marinus
Sea trout, gray	Gray trout	Cynoscion regalis
Sea trout, spotted	Spotted or speckled trout	Cynoscion nebulosus
Sheepshead	--	Archosargus sp.
Snapper, red	--	Lutjanus blackfordii
Snapper, other	Mangrove, vermilion, etc.	Lutjanus sp. and Rhomboplites sp.
Spanish mackerel	Mackerel	Scomberomorus maculatus
Spot	--	Leiostomus xanthurus
Tenpounder	Ladyfish	Elops saurus
Triggerfish	--	Balistes sp.
Warsaw	Black jewfish	Epinephelus nigritus
Crabs, blue	--	Callinectes sapidus
Crabs, stone	--	Menippe mercenaria
Shrimp	--	Penaeus sp. (largely P. setiferus)
Oysters	--	Crassostrea virginica
Squid	--	Loligo sp.
Scallops, calico	--	Pecten gibbus
Clams, hard	Quahog	Venus mercenaria

FISH TAKEN INCIDENTAL TO SHRIMP TRAWLING

The U.S. Bureau of Fisheries, during studies on the white shrimp in the Cape Canaveral Area during the 2-year period July 1933-June 1935, maintained a record of the fish captured. The data were obtained from operations of the Bureau's 40-foot shrimp trawler Launch 58, using standard commercial gear. The trawls were 75-foot spread of 1-3/4-inch stretch mesh netting and were hauled at 2 to 3 knots. Duration of individual drags varied between 1 and 1-1/2 hours. Two work areas on the shrimp fishing grounds were sampled monthly, one off Ponce de Leon Inlet and the other just south of Cape Canaveral.

These records contain valuable information regarding relative abundance of the various families and species of fish associated with the shrimp fishing grounds, seasonal abundance, and a good estimate of the average fish catch made incidental to commercial shrimp fishing operations. Many of the larger fish--in particular the Sciaenidae (including spot, whiting, croaker, and white sea trout)--are saved by shrimp fishermen and sold or otherwise utilized as food.

In table 9 these data are summarized so that for each month are given, by species: The average numbers of fish taken per hour of trawling, the percent of the total catch for the month, and the actual number of fish captured. A total, by months, for all species combined is given at the end of the table. Figure 7 shows by months the average number of fish per hour of trawling for all species combined. These data show a great seasonal variation in numbers of fish found on shrimp fishing bottoms. From a low of only 200-400 fish per hour of trawling during late spring and early summer, the numbers taken rose rapidly during the summer and early fall to peak in October and November at 4,500-5,500 fish per hour of trawling. In December the number taken began to decline, and this decline continued through the winter until the low point was reached in the spring.

Considering only those species that contributed 2 percent or more of the yearly total, we find that 11 species representing 4 families account for nearly 93 percent of the catch. Table 10 shows the data for these 11 species by family, by month, for the 2 years and two stations combined.

The croaker family (Sciaenidae), with six species, is by far the most abundant, accounting for nearly 70 percent of the total number of fish captured. On a monthly basis, the percentage ranged from 47.1 to 84.3. One species, the star drum (Stellifer lanceolatus), alone accounted for almost 27 percent of the yearly number, ranging over the months from 0 to over 40 percent of the number caught.

The jacks (Carangidae), with two species, represented 16.5 percent of the yearly catch and ranged over the months from 1.8 to 40.8 percent.

The sea catfish (Ariidae), with two species, contributed 4.6 percent of the yearly catch and ranged monthly from 0.4 to 8.7 percent.

The sea basses (Serranidae), with one species, was 2.4 percent of the yearly take and ranged from 0.3 to 8.9 percent over the months.

There follows by family the status of each of the 11 species with regard to commercial usage and as food for human consumption.

Table 9.--Fish taken by trawling, Cape Canaveral Area, M/V Launch 58 1933-35, catch-per-unit-of-effort (75-foot shrimp trawl at 2-3 knots) by months for two years combined, for New Smyrna and Cape Canaveral stations combined

[Upper figure, number of fish per hour of hauling; middle figure, percent of total catch; and lower figure, total number of fish; asterisk indicates value of less than 0.05]

Species	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
Rhizoprionodon terraenovae	--	--	--	--	--	0.2 * 1	--	--	--	--	--	--	* * 1
Sphyrna tiburo	--	--	--	4.0 0.1 16	14.0 0.3 56	7.5 0.2 41	6.0 0.2 36	0.3 * 1	0.5 * 2	0.3 0.1 2	1.5 0.5 3	0.5 0.1 1	2.7 0.1 159
Sphyrna zygaena	--	--	0.3 * 1	0.5 * 2	1.8 * 7	0.4 * 2	0.3 * 2	--	0.2 * 1	--	--	--	0.3 * 16
Torpedo nobiliana	0.2 * 1	0.2 * 1	0.3 * 1	1.5 * 6	--	--	0.3 * 2	--	1.2 0.1 5	--	--	0.5 0.1 1	0.3 * 18
Raja eglanteria	--	--	1.2 * 3	--	--	0.7 * 4	--	0.1 * 1	0.5 * 2	--	--	--	0.3 * 15
Dasyatis americana	--	--	--	--	1.0 * 4	--	--	0.3 * 2	0.5 * 2	--	--	--	0.1 * 8

Table 9.--Continued

Species	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
Dasyatis sabina	--	--	--	--	1.0 * 4	--	--	--	--	--	--	--	0.1 * 4
Gymnura micrura	--	--	1.1 * 7	0.5 * 2	1.2 * 5	--	0.3 * 2	--	--	0.2 * 1	--	--	0.3 * 17
Rhinoptera bonasus	--	--	0.3 * 2	0.2 * 1	--	--	0.2 * 1	--	--	--	--	--	0.1 * 4
Brevoortia sp. (tyrannus and smithi)	0.3 * 2	2.9 0.1 16	--	1.0 * 4	1.0 * 4	2.2 0.1 12	--	12.7 1.5 89	108.5 6.7 434	5.2 2.5 34	--	--	10.1 0.5 595
Opisthonema oglinum	--	--	--	--	--	0.4 * 2	--	2.3 0.3 16	--	0.8 0.4 5	--	--	0.4 * 23
(All other herrings--misc. genera and species)	--	--	4.3 0.2 28	1.2 * 5	17.0 0.3 68	3.6 0.1 20	--	--	0.5 * 2	--	--	--	2.1 0.1 123
Anchoa sp. (largely mitchilli and hepsetus)	--	--	1.8 0.1 12	--	--	7.3 0.2 40	10.7 0.4 64	6.1 0.7 43	22.0 1.4 88	14.6 7.1 95	3.5 1.1 7	22.5 6.0 45	6.7 0.3 394
Synodus foetens	1.2 0.1 7	2.9 0.1 16	--	--	--	1.5 * 8	1.7 0.1 10	--	0.2 * 1	0.9 0.4 6	2.0 0.6 4	2.0 0.5 4	0.9 * 56
Bagre marinus	--	0.7 * 4	1.2 * 8	51.0 1.1 204	392.0 5.3 1,168	92.4 2.8 508	303.0 8.4 1,218	6.3 0.7 44	27.5 1.7 110	0.8 0.4 5	0.5 0.2 1	1.5 0.4 3	55.5 2.6 3,273
Galeichthys felis	6.0 0.6 36	62.5 3.2 344	167.1 5.9 1,086	106.0 2.3 424	76.0 1.4 304	5.1 0.2 28	7.0 0.3 42	--	43.5 2.7 174	0.8 0.4 5	0.5 0.2 1	0.5 0.1 1	41.4 2.0 2,445
Ophichthus sp.	--	--	--	--	--	--	--	0.1 * 1	--	0.2 0.1 1	--	--	* * 2
Urophycis sp.	--	--	--	--	--	--	--	0.7 0.1 5	3.0 0.2 12	0.3 0.1 2	--	--	0.3 * 19
Centropristis striatus	2.5 0.2 15	30.5 1.6 168	3.1 0.1 20	3.0 0.1 12	--	--	--	0.3 * 2	1.5 0.1 6	0.3 0.1 2	1.0 0.3 2	--	3.8 0.2 227
Centropristis philadelphicus	73.8 6.9 443	173.8 8.9 956	77.2 2.7 502	76.0 1.7 304	61.0 1.1 244	49.8 1.5 274	21.0 0.9 126	2.4 0.3 17	24.5 1.5 98	1.8 0.9 12	12.5 3.8 25	5.0 1.3 10	51.0 2.4 3,011
Pomatomus saltatrix	--	--	0.6 * 4	--	--	--	--	0.1 * 1	1.5 0.1 6	0.3 0.1 2	--	1.0 0.3 2	0.3 * 15
Caranx crysos	--	--	--	1.0 * 4	2.0 * 8	2.2 0.1 12	--	--	--	--	0.5 0.2 1	--	0.4 * 25
Caranx sp.	--	--	0.3 * 2	--	--	--	0.8 * 5	--	--	--	--	--	0.1 * 7
Chloroscombrus chrysurus	81.2 7.6 487	52.4 2.7 288	172.9 6.1 1,124	628.0 13.5 2,432	358.0 6.4 1,432	1,182.5 36.2 6,504	468.3 19.3 2,810	4.9 0.6 34	23.0 1.4 92	38.8 18.7 252	80.0 24.2 160	65.0 17.5 130	266.9 12.7 15,745
Selene vomer	0.8 0.1 5	--	--	--	--	1.5 * 8	10.7 0.4 64	--	--	--	--	0.5 0.1 1	1.3 0.1 78
Trachinotus sp.	--	--	--	--	1.0 * 4	--	0.5 * 2	--	--	--	--	--	0.1 * 6

Table 9.--Continued

Species	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
Trachurus lathami	0.8 0.1 5	--	--	--	--	--	--	--	--	--	--	--	0.1 * 5
Vomer setapinnis	0.5 * 3	1.5 0.1 8	17.2 0.6 112	507.0 11.2 2,028	273.5 4.9 1,094	149.8 4.6 824	65.7 2.7 394	10.1 1.2 71	35.5 2.2 142	2.9 1.4 19	1.0 0.3 2	5.0 1.3 10	79.8 3.8 4,707
Eucinostomus sp.	0.5 * 3	1.8 0.1 10	--	--	1.0 * 4	5.8 0.2 32	--	--	--	0.3 0.1 2	8.5 2.6 17	--	1.2 0.1 68
Orthopristis chrysopterus	1.0 0.1 6	8.0 0.4 44	22.8 0.8 148	37.0 0.8 148	4.0 0.1 16	1.5 * 8	3.3 0.1 20	0.3 * 2	9.0 0.6 36	0.9 0.4 6	6.5 2.0 13	0.5 0.1 1	7.6 0.4 448
Bairdiella chrysura	2.3 0.2 14	0.7 * 4	1.2 * 8	15.0 0.3 60	12.0 0.2 48	2.2 0.1 12	6.7 0.3 40	0.9 0.1 6	1.2 0.1 5	3.4 1.6 22	--	7.0 1.9 14	3.9 0.2 233
Cynoscion nothus	36.7 3.4 220	120.0 6.2 660	80.0 2.8 520	254.0 5.6 1,016	715.0 12.9 2,860	429.8 13.2 2,364	381.7 15.8 2,290	81.3 9.4 569	193.2 12.0 773	70.2 33.9 456	34.5 10.4 69	110.0 29.6 220	203.7 9.7 12,017
Cynoscion regalis	3.0 0.3 18	15.3 0.8 84	8.8 0.3 57	32.0 0.7 128	84.0 1.5 336	6.5 0.2 36	10.7 0.4 64	11.4 1.3 80	10.0 0.6 40	1.4 0.7 9	--	--	14.4 0.7 852
Equetus lanceolatus	--	--	--	--	--	--	--	--	--	--	--	0.5 0.1 1	* * 1
Larimus fasciatus	1.3 0.1 8	8.0 0.4 44	12.9 0.5 84	48.0 1.1 192	227.0 4.1 908	64.0 2.0 352	53.3 2.2 320	23.4 2.7 164	34.5 2.1 138	5.1 2.5 33	23.0 6.9 46	25.5 6.9 51	39.7 1.9 2,340
Leiostomus xanthurus	259.7 24.3 1,558	226.5 11.6 1,246	175.4 6.1 1,140	335.0 7.4 1,340	224.0 4.0 896	82.5 2.5 454	216.0 8.9 1,296	277.4 32.2 1,942	199.2 12.4 797	6.8 3.3 44	13.0 3.9 26	17.5 4.7 35	182.6 8.7 10,774
Menticirrhus sp. (largely americanus)	40.0 3.7 240	66.9 3.4 368	273.8 9.6 1,780	680.0 15.1 2,720	377.0 6.8 1,508	43.6 1.3 240	188.3 7.8 1,130	50.3 5.8 352	127.0 7.9 508	2.0 1.0 13	3.0 0.9 6	2.0 0.5 4	150.3 7.2 8,869
Micropogon undulatus	305.0 28.5 1,830	822.5 42.3 4,524	552.6 19.4 3,592	373.0 8.3 1,492	422.0 7.6 1,688	694.5 21.2 3,820	162.3 6.7 974	31.1 3.6 218	24.8 1.5 99	7.7 3.7 50	125.5 37.9 251	62.5 16.8 125	316.3 15.1 18,663
Pogonias cromis	--	--	--	0.5 * 2	--	--	--	0.1 * 1	--	--	--	--	0.1 * 3
Stellifer lanceolatus	211.2 19.8 1,267	233.5 12.0 1,284	1,157.2 40.6 7,522	1,289.0 28.6 5,156	2,236.0 40.2 8,944	226.2 6.9 1,244	482.3 19.9 2,894	263.3 30.6 1,843	649.8 40.4 2,599	21.7 10.5 141	--	20.0 5.4 40	558.2 26.6 32,934
Lagodon rhomboides	0.2 * 1	1.5 0.1 8	1.2 * 8	1.0 * 4	8.0 0.1 32	6.5 0.2 36	2.3 0.1 14	--	1.0 0.1 4	0.6 0.3 4	5.0 1.5 10	--	2.1 0.1 121
Stenotomus sp.	--	--	--	--	--	1.1 * 6	0.7 * 4	--	--	--	--	--	0.2 * 10
Chaetodipterus faber	0.3 * 2	--	--	12.0 0.3 48	68.0 1.2 272	95.3 2.9 524	21.3 0.9 128	22.0 2.6 154	14.0 0.9 56	3.5 1.7 23	0.5 0.2 1	1.0 0.3 2	20.5 1.0 1,210
Trichiurus lepturus	10.8 1.0 65	11.6 0.6 64	31.1 1.1 202	38.0 0.8 152	20.0 0.4 80	70.9 2.2 390	53.7 2.2 322	12.3 1.4 86	12.0 0.7 48	5.5 2.7 36	--	1.0 0.3 2	24.5 1.2 1,447
Scorpaena sp.	--	--	0.2 * 1	--	--	0.2 * 1	--	--	--	--	--	--	* * 2
Prionotus sp.	15.2 1.4 91	55.3 2.8 304	9.2 0.3 60	3.0 0.1 12	3.0 0.1 12	--	0.7 * 4	--	0.2 * 1	0.6 0.3 4	0.5 0.2 1	1.5 0.4 3	8.3 0.4 492

Table 9.--Continued

Species	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
Hypsoblennius sp.	--	--	--	--	--	--	--	0.1 * 1	--	--	--	--	* * 1
Rissola marginata	--	--	--	--	--	0.5 * 3	--	--	--	--	--	--	0.1 * 3
Peprilus alepidotus	0.7 0.1 4	--	0.6 * 4	9.0 0.2 36	10.0 0.2 40	4.4 0.1 24	24.7 1.0 148	25.1 2.9 176	6.0 0.4 24	0.5 0.2 3	--	0.5 0.1 1	7.8 0.4 460
Poronotus triacanthus	--	8.7 0.4 48	5.5 0.2 36	3.0 0.1 12	1.0 * 4	4.4 0.1 24	3.3 0.1 20	7.0 0.8 49	2.5 0.2 10	6.0 2.9 39	0.5 0.2 1	14.5 3.9 29	4.6 0.2 272
Ancylopsetta quadrocellata	0.7 0.1 4	1.5 0.1 8	--	--	--	--	--	--	0.5 * 2	--	--	1.0 0.3 2	0.3 * 16
Citharichthys sp. (largely spilopterus)	1.0 0.1 6	0.7 * 4	--	--	1.0 * 4	--	--	0.3 * 2	--	--	0.5 0.2 1	0.5 0.1 1	0.3 * 18
Etropus crossotus	7.2 0.7 43	24.0 1.2 132	40.6 1.4 264	16.0 0.4 64	35.0 0.6 140	5.5 0.2 30	12.0 0.5 72	4.3 0.5 30	23.0 1.4 92	1.4 0.7 9	5.0 1.5 10	2.0 0.5 4	15.1 0.7 890
Paralichthys dentatus	1.2 0.1 7	3.6 0.2 20	2.8 0.1 18	5.0 0.1 20	4.0 0.1 16	--	--	0.3 * -	--	0.2 0.1 1	--	--	1.4 0.1 84
Scophthalmus aquosus	0.3 * 2	--	--	--	--	--	--	--	--	--	--	--	* * 2
Trinectes maculatus	--	2.2 0.1 12	16.6 0.6 108	2.0 * 8	3.0 0.1 12	8.7 0.3 48	0.7 * 4	0.4 * 1	--	0.6 0.3 4	--	0.5 0.1 1	3.4 0.2 200
Symphurus sp. (largely plagiusa)	3.2 0.3 19	3.6 0.2 20	8.0 0.3 52	1.0 * 4	--	5.1 0.2 28	--	5.5 0.4 23	7.5 0.5 30	0.6 0.3 4	--	--	3.1 0.1 180
Echeneis naucrates	--	--	--	--	--	--	--	--	--	--	0.5 0.2 1	--	* * 1
Balistes sp.	--	--	0.6 * 4	--	--	--	--	--	--	--	--	--	0.1 * 4
Stephanolepis sp.	--	1.1 0.1 6	0.6 * 4	--	1.0 * 4	--	--	--	--	--	1.0 0.3 2	--	0.3 * 16
Acanthostracion (largely quadricornis)	--	--	--	--	--	--	--	--	--	--	0.5 0.2 1	--	* * 1
Chilomycterus schoepfi	--	--	--	--	--	0.7 * 4	--	0.1 * 1	--	--	--	--	0.1 * 5
Porichthys porosissimus	--	--	1.8 0.1 12	--	--	0.4 * 2	--	--	--	--	--	--	0.2 * 14
Ogcocephalus sp. (largely vespertilio)	--	--	--	--	--	0.7 * 4	--	--	--	--	--	--	0.1 * 4
Number of fish per hour of hauling, all species combined	1,068.8	1,944.4	2,852.4	4,514.4	5,556.5	3,268.1	3,420.3	661.4	1,609.7	307.0	331.0	372.0	25,006.0
Total number of fish	6,412	10,695	18,543	18,058	22,226	17,974	14,522	6,033	6,440	1,345	663	744	123,653

Table 10.--Fish taken by trawling, Cape Canaveral Area, M/V Launch 58 1933-35, catch-per-unit-of-effort (75-foot shrimp trawl at 2-3 knots) for species representing two percent or more of total catch, by months for two years combined, for New Smyrna and Cape Canaveral stations combined

[Upper figure, number of fish per hour of hauling; lower figure, percent of total catch; asterisk indicates value of less than 0.05]

Species	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
SCIAENIDAE													
Stellifer lanceolatus	211.2	233.5	1,157.2	1,289.0	2,236.0	226.2	482.3	263.3	649.8	21.7	--	20.0	558.2
	19.8	12.0	40.6	28.6	40.2	6.9	19.9	30.6	40.4	10.5	--	5.4	26.6
Micropogon undulatus	305.0	822.5	552.6	373.0	422.0	694.5	162.3	31.1	24.8	7.7	125.5	62.5	316.3
	28.5	42.3	19.4	8.3	7.6	21.2	6.7	3.6	1.5	3.7	37.9	16.8	15.1
Cynoscion nothus	36.7	120.0	80.0	254.0	715.0	429.8	381.7	81.3	193.2	70.2	34.5	110.0	203.7
	3.4	6.2	2.8	5.6	12.9	13.2	15.8	9.4	12.0	33.9	10.4	29.6	9.7
Leiostomus xanthurus	259.7	226.5	175.4	335.0	224.0	82.5	216.0	277.4	199.2	6.8	13.0	17.5	182.6
	24.3	11.6	6.1	7.4	4.0	2.5	8.9	32.2	12.4	3.3	3.9	4.7	8.7
Menticirrhus spp.	40.0	66.9	273.8	680.0	377.0	43.6	188.3	50.3	127.0	2.0	3.0	2.0	150.3
	3.7	3.4	9.6	15.1	6.8	1.3	7.8	5.8	7.9	1.0	0.9	0.5	7.2
Larimus fasciatus	1.3	8.0	12.9	48.0	227.0	64.0	53.3	23.4	34.5	5.1	23.0	25.5	39.7
	0.1	0.4	0.5	1.1	4.1	2.0	2.2	2.7	2.1	2.5	6.9	6.9	1.9
Total	853.9	1,477.4	2,251.9	2,979.0	4,201.0	1,540.6	1,483.9	726.8	1,228.5	113.5	199.0	237.5	1,450.8
	79.8	75.9	79.0	66.1	75.6	47.1	61.3	84.3	76.3	54.9	60.0	63.9	69.2
CARANGIDAE													
Chloroscombrus chrysurus	81.2	52.4	172.9	608.0	358.0	1,182.5	468.3	4.9	23.0	38.8	80.0	65.0	266.9
	7.6	2.7	6.1	13.5	6.4	36.2	19.3	0.6	1.4	18.7	24.2	17.5	12.7
Vomer setapinnis	0.5	1.5	17.2	507.0	273.5	149.8	65.7	10.1	35.5	2.9	1.0	5.0	79.8
	*	0.1	0.6	11.2	4.9	4.6	2.7	1.2	2.2	1.4	0.3	1.3	3.8
Total	81.7	53.9	190.1	1,115.0	631.5	1,332.3	534.0	15.0	58.5	41.7	81.0	70.0	346.7
	7.6	2.8	6.7	24.7	11.3	40.8	22.0	1.8	3.6	20.1	24.5	18.8	16.5
ARIIDAE													
Bagre marinus	--	0.7	1.2	51.0	292.0	92.4	203.0	6.3	27.5	0.8	0.5	1.5	55.5
	--	*	*	1.1	5.3	2.8	8.4	0.7	1.7	0.4	0.2	0.4	2.6
Galeichthys felis	6.0	62.5	167.1	106.0	76.0	5.1	7.0	--	43.5	0.8	0.5	0.5	41.4
	0.6	3.2	5.9	2.3	1.4	0.2	0.3	--	2.7	0.4	0.2	0.1	2.0
Total	6.0	63.2	168.3	157.0	368.0	97.5	210.0	6.3	71.0	1.6	1.0	2.0	96.9
	0.6	3.2	5.9	3.4	6.7	3.0	8.7	0.7	4.4	0.8	0.4	0.5	4.6
SERRANIDAE													
Centropristis philadelphicus	73.8	173.8	77.2	76.0	61.0	49.8	21.0	2.4	24.5	1.8	12.5	5.0	51.0
	6.9	8.9	2.7	1.7	1.1	1.5	0.9	0.3	1.5	0.9	3.8	1.3	2.4
Grand total	1,015.4	1,768.3	2,687.5	4,327.0	5,261.5	3,020.2	2,248.9	750.5	1,382.5	158.6	293.5	314.5	1,945.4
	94.9	90.8	94.3	95.9	94.7	92.4	92.9	87.1	85.8	76.7	88.7	84.5	92.7

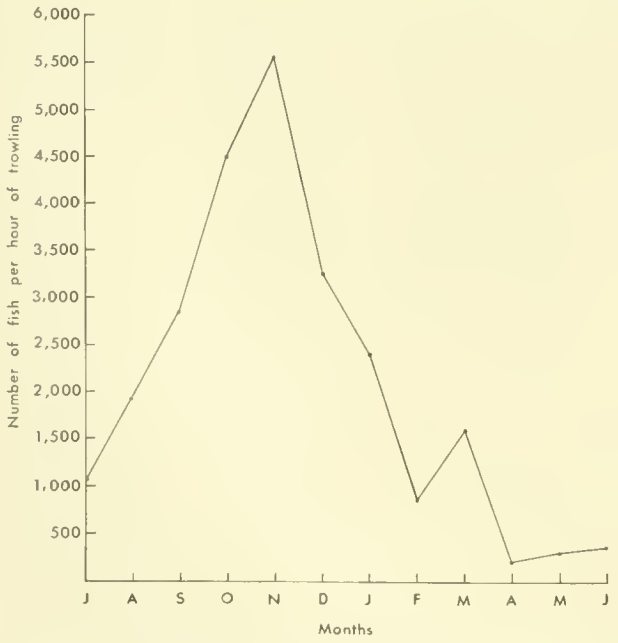


Figure 7.--Numbers of fish taken per hour of trawling incidental to shrimp fishing operations, Cape Canaveral Area, all species by month, for 2 years combined, and two stations combined. See table 9.

SCIAENIDAE - CROAKERS

1. Stellifer lanceolatus - Star Drum

This was the most abundant species taken incidental to shrimp trawling. It is a relatively small fish (maximum size about 6 inches), but the bulk of the fish in the catch are probably more nearly 3 inches. The species is not included in the commercial fishery landings and to the best of our knowledge is not utilized for human consumption. It probably is an important forage fish.

2. Micropogon undulatus - Croaker

The species is not of commercial importance in the Cape Canaveral Area, although it is of major importance in more northern sections of the Atlantic seaboard. Some of the larger specimens are saved and utilized as food. The species reaches a weight of several pounds and length of about 18 inches, but in the Cape Canaveral Area most specimens would be under 8 inches. It is also taken by sport fishermen in limited amounts.

3. Cynoscion nothus - White or Silver Sea Trout

This is the smallest member of the weakfish or sea trout group occurring on our Atlantic coast and seldom reaches a length of 12 inches. It is not included in the commercial landings, though larger specimens are saved and used for human consumption. Also, it is taken in quantity by sport fishermen.

4. Leiostomus xanthurus - Spot

This species ranks fifth in volume of the Cape Canaveral Area fisheries. Specimens over 10 inches in length are seldom found, and most fish caught would not exceed 6 or 7 inches. Larger specimens are saved and used for human food. The species is also important to sport fishermen.

5. Menticirrhus spp. - King Whiting

King whiting ranks seventh of the Cape Canaveral Area fisheries, and much of the production is taken incidental to shrimp fishing operations. The species reaches a maximum weight of 2 to 3 pounds and about 14 to 16 inches in length. Most of the fish taken in the trawl fishery would weigh less than a pound and probably not average over one-half pound. The species is an excellent food fish and important in the sport fishery of the area.

6. Larimus fasciatus - Banded Croaker

This small species is not included in the commercial catch, nor is it important to sport fishermen. We believe it is seldom utilized for human consumption.

CARANGIDAE - JACKS

7. Chloroscombrus chrysurus - Bumper

This small fish does not enter the commercial landings, is not utilized for human consumption, and is not important to sport fishermen. It is probably an important forage fish.

8. Vomer setapinnis - Moonfish

This small fish does not enter the commercial landings, is not utilized for human consumption, and is not important to sport fishermen. It is probably an important forage fish.

ARIIDAE - SEA CATFISH

9. Bagre marinus - Gafftopsail Catfish

A few hundred pounds of this fish are landed each year, but the species is not of significant commercial importance. It is utilized for human consumption in very limited quantities. Some are taken by sport fishermen, but it is not a prized fish.

10. Galeichthys felis - Sea Catfish

This species has no commercial importance, is seldom utilized for human food, and is not sought by sport fishermen.

SERRANIDAE - SEA BASSES

11. Centropristis philadelphicus - Rock Sea Bass

This small member of the sea bass group reaches a maximum size of about 12 inches, but most of the catch incidental to shrimp trawling is under 8 inches. The larger specimens are used for human consumption. This species is not significant either commercially or for the sport fishery.

FISH AND GENERAL INVERTEBRATE GROUPS TAKEN DURING EXPLORATORY FISHING

Limited explorations in the Cape Canaveral Area with trawling gear--in addition to that carried out during the 1933-35 shrimp studies--were accomplished in two general periods, 1940 and during 1957-63.

During January 1940 and again during March-April 1940 the Bureau of Fisheries M/V Pelican made a series of drags on the Continental Shelf utilizing a 10-foot trynet. These data are presented in table 11 for each of the periods and in two water depth categories (surface to 20 and 20 to 100 fathoms).

JANUARY

Considerably more fish were taken in surface to 20 fathoms than in 20 to 100 fathoms (62 fish per hour of trawling compared to 15), and about 67 percent of the catch consisted of members of the family Sciaenidae (croakers). Spot (Leiostomus xanthurus) was the most abundant single species and represented about 47 percent of total catch in surface to 20 fathoms of water and 15 percent in 20 to 100 fathoms.

MARCH-APRIL

In this period over twice the number of fish was taken in 20 to 100 fathoms as in surface to 20 fathoms (65 fish per hour of trawling as compared to 31), reversing the condition found in January.

Table 11.--Fish taken by trawling, Cape Canaveral Area, M/V Pelican, 1940, catch-per-unit-of-effort by species, 10-foot trynet at 6 knots

[Upper figure, number of fish per hour of hauling; lower figure, percent of total catch; asterisk indicates value of less than 0.05]

Species	January 1940			March-April 1940		
	Water depth in fathoms					
	0-20	20-100	0-100	0-20	20-100	0-100
Raja eglanteria	--	--	--	*	--	*
				0.1		0.1
Dasyatis americana	0.7	--	0.6	*	--	*
	1.2		1.1	0.1		0.1
Brevoortia sp.	--	--	--	*	--	*
				0.1		0.1
Anchoa sp.	0.1	--	0.1	7.4	--	6.2
	0.1		0.1	21.4		15.7
Synodus foetens	4.6	5.3	4.8	1.0	2.5	1.3
	7.6	34.8	9.3	2.9	3.8	3.2
Trachinocephalus myops	--	--	--	*	0.2	0.1
				0.1	0.4	0.2
Galeichthys felis	3.9	--	3.1	*	--	*
	6.4		6.0	0.1		0.1
Urophycis sp.	--	1.7	0.4	*	3.0	0.6
		10.9	0.7	0.3	4.6	1.4
Hippocampus sp.	--	0.3	0.1	0.1	--	0.1
		2.2	0.1	0.3		0.2
Syngnathus sp.	--	--	--	0.1	--	0.1
				0.3		0.2
Centropristis striatus	0.7	1.0	0.8	*	0.2	0.3
	1.2	6.5	1.5	1.0	0.4	0.8
Centropristis philadelphicus	0.6	0.3	0.6	0.5	0.8	0.5
	1.0	2.2	1.1	1.4	1.1	1.3
Diplectrum formosum	0.3	--	0.2	0.1	0.2	0.1
	0.4		0.4	2.8	0.4	0.3
Pomatomus saltatrix	--	--	--	*	--	*
				0.1		0.1
Chloroscombrus chrysurus	3.2	--	2.5	2.9	--	2.4
	5.2		4.9	8.4		6.1
Decapterus sp.	--	0.3	0.1	0.1	8.0	2.0
		2.2	0.1	2.2	12.2	4.9
Trachurus lathami	--	--	--	0.1	--	0.1
				0.4		0.3
Vomer setapinnis	0.9	--	0.1	--	--	--
	0.1		0.1			
Eucinostomus sp.	--	--	--	*	--	*
				0.1		0.1
Orthopristis chrysopterus	0.3	--	0.2	0.5	--	0.4
	0.4		0.4	1.5		1.1
Bairdiella chrysura	0.3	--	0.2	*	--	*
	0.4		0.4	0.1		0.1
Cynoscion nothus	3.3	--	2.6	5.3	0.2	4.4
	5.4		5.0	15.1	0.4	11.2
Cynoscion regalis	0.3	--	0.2	0.4	--	0.4
	0.4		0.4	1.3		0.9
Larimus fasciatus	3.1	--	2.4	2.1	3.0	2.2
	5.1		4.7	6.0	4.6	5.6
Leiostomus xanthurus	28.8	2.3	23.1	7.9	21.2	10.1
	47.2	15.2	45.1	22.7	32.3	25.3
Menticirrhus sp. (largely americanus	2.2	--	1.7	0.1	--	0.7
	3.6		3.3	2.5		1.8
Micropogon undulatus	2.1	0.3	1.7	0.1	20.5	4.0
	3.4	2.2	3.3	2.4	31.2	10.1
Stellifer lanceolatus	0.9	--	0.7	0.1	--	0.1
	1.5		1.4	0.4		0.3
Lagodon rhomboides	1.3	--	1.0	0.1	0.2	0.2
	2.1		1.9	0.4	0.4	0.4
Stenotomus sp.	0.2	--	0.1	--	--	--
	0.3		0.3			
Trichiurus lepturus	--	--	--	0.1	--	0.1
				0.3		0.2
Scomber colias	--	--	--	--	0.8	0.1
					1.1	0.3
Scorpaena sp.	0.1	--	0.1	*	1.0	0.2
	0.1		0.1	0.1	1.5	0.5
Prionotus sp.	0.5	1.3	0.7	0.9	0.2	0.8
	0.9	8.7	1.4	2.7	0.4	2.0
Peprilus alepidotus	0.5	--	0.4	--	--	--
	0.9		0.8			
Poronotus triacanthus	--	--	--	--	0.2	*
					0.4	0.1
Citharichthys sp.	0.9	--	0.7	0.4	1.2	0.5
	1.5		1.4	1.1	1.9	1.3
Etropus sp.	0.8	--	0.6	0.6	0.2	0.5
	1.3		1.3	1.7	0.4	1.3
Paralichthys dentatus	0.1	--	0.1	--	--	--
	0.1		0.1			
Syacium sp.	--	0.3	0.1	*	0.2	0.1
		2.2	0.1	0.1	0.4	0.2
Trinectes maculatus	--	--	--	*	--	*
				0.1		0.1
Symphurus sp.	0.7	--	0.6	0.3	--	0.3
	1.2		1.1	1.0		0.7
Alutera schoepfii	0.3	--	0.2	*	0.2	0.1
	0.4		0.4	0.1	0.4	0.2
Acanthostracion sp.	--	--	--	*	--	*
				0.1		0.1
Opsanus sp.	--	0.3	0.1	--	--	--
		2.2	0.1			
Ogcocephalus sp.	0.2	1.7	0.5	*	--	*
	0.3	10.9	1.0	0.1		0.1
Halieutichthys sp.	--	--	--	--	1.2	0.2
					1.9	0.5
Number of fish per hour of hauling, all species combined	61.9	15.1	51.4	31.2	65.2	39.2

GENERAL

In surface to 20 fathoms of water the family Sciaenidae (croakers) represented about 50 percent of the number of fish captured, with spot (Leiostomus xanthurus) accounting for about 23 percent and white sea trout (Cynoscion nothus) about 15 percent. In 20 to 100 fathoms the Sciaenidae represented 68 percent of the number of fish taken, with spot (Leiostomus xanthurus) accounting for 32 percent and croaker (Micropogon undulatus) 31 percent.

Several exploratory fishing vessels operated by the Bureau of Commercial Fisheries during 1957-63 made limited trawling forays on the Continental Shelf in the Cape Canaveral Area. These were the M/V Combat, M/V Pelican, and M/V Silver Bay. In table 12 are the data on species of fish captured, by season and depth of water. These data are a valuable addition to our knowledge of the actual occurrence of species within the Cape Canaveral Area. At the end of the table are given occurrence of the more important invertebrate forms.

Table 12.--Fish and invertebrates taken in trawls by Bureau of Commercial Fisheries vessels Combat, Pelican, and Silver Bay in Cape Canaveral Area, by season and depth of water

[Species arranged in phylogenetic order]

Species	Water depth in fathoms: 0-20				20-100				0-100			
	Seasons				Seasons				Seasons			
	Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall
Galeus arae							X	X			X	X
Carcharias taurus	X								X			
Carcharhinus falciformis					X				X			
Carcharhinus milberti					X				X			
Negaprion brevirostris				X								X
Squalus sp.	X								X			
TORPEDINIDAE	X								X			
Torpedo nobiliana	X			X					X			X
Raja sp.	X			X				X	X			X
Raja eglanteria	X								X			
Dasyatis centroura	X								X			
Dasyatis sayi	X			X					X			X
Aetobatus narinari	X								X			
Myliobatis sp.	X								X			
Rhinoptera bonasus	X								X			
CLUPEIDAE	X							X	X			X
Brevoortia smithi				X								X
Brevoortia tyrannus	X								X			
Etrumeus sadina				X	X				X			X
Harengula pensacolae	X			X					X			X
Opisthonema oglinum	X	X		X					X	X		X
Sardinella sp.							X	X			X	X
Anchoa sp.	X			X					X			X
Anchoa hepsetus	X								X			
Synodus foetens	X	X		X	X	X	X	X	X	X	X	X
Synodus intermedius						X				X		
Trachinocephalus myops						X		X		X		X
Chlorophthalmus sp.					X				X			
Bagre marinus	X			X					X			X
Galeichthys felis	X			X					X			X
OONGRIDAE					X				X			
Ophichthus sp.	X								X			
Ophichthus ocellatus	X			X					X			X
Merluccius sp.					X			X	X			X
Phycis sp.								X				X
Urophycis sp.					X				X			
Urophycis regius	X				X		X	X	X		X	X
Fistularia tabacaria						X	X	X		X	X	X
Hippocampus sp.		X		X					X			X
Polymixia lowei					X			X	X			X
Anthias sp.					X			X	X			X
Centropristis sp.	X			X		X		X	X	X		X
Centropristis ocyurus	X					X	X		X	X	X	
Centropristis philadelphicus	X	X			X	X			X	X		X
Centropristis striatus		X		X	X				X	X		X
Diplectrum sp.							X	X			X	X
Diplectrum formosum	X	X		X		X	X	X	X	X	X	X
Epinephelus niveatus					X				X			
Hemanthias sp.								X				X
Serranus phoebe								X				X
Lobotes surinamensis	X								X			
Lutjanus blackfordii					X				X			
Rhomboplites aurorubens					X		X	X	X		X	X
Pomatomus saltatrix	X			X				X	X			X
Rachycentron canadum	X								X			
Caranx sp.	X			X					X			X
Caranx crysos				X			X				X	X
Caranx hippos				X			X				X	X
Caranx ruber							X				X	
Chloroscombrus chrysurus	X			X					X			X
Decapterus sp.								X				X
Decapterus punctatus							X	X			X	X
Selar crumenophthalmus						X	X	X		X	X	X
Selene vomer	X			X					X			X
Seriola dumerili							X				X	
Trachinotus carolinus	X			X				X	X			X
Trachurus lathami						X	X	X		X	X	X
Vomer setapinnis	X			X				X	X			X
Coryphaena hippurus								X				X
Eucinostomus sp.	X								X			
Haemulon sp.	X			X					X			X
Haemulon plumieri	X							X	X			X
Orthopristis chrysopterus	X								X			
SCIAENIDAE	X								X			
Cynoscion sp.	X	X		X					X	X		X
Cynoscion nebulosus	X								X			
Cynoscion nothus	X								X			
Cynoscion regalis	X	X		X					X	X		X
Larimus fasciatus	X	X				X			X	X		
Leiostomus xanthurus	X	X		X		X		X	X	X		X
Menticirrhus sp.	X	X							X	X		
Menticirrhus americanus	X			X				X	X			X
Menticirrhus saxatilis	X			X					X			X
Micropogon undulatus	X			X		X		X	X	X		X
Pogonias cromis	X			X					X			X
Stellifer lanceolatus	X								X			
Pseudupeneus maculatus										X		
SPARIDAE	X								X			
Lagodon rhomboides	X						X		X		X	
Stenotomus chrysops	X				X			X	X			X
Kyphosus incisor							X				X	
Kyphosus sectatrix							X				X	
Chaetodipterus faber	X				X			X	X			X
Trichiurus lepturus	X				X			X	X			X
Scomber colias						X		X	X		X	
Scombermorus cavalla	X								X			
Scomberomorus maculatus	X				X				X			X
SCORPAENIDAE						X			X			X
Pontinus sp.	X								X			
Scorpaena sp.	X	X			X		X	X	X	X	X	X
Scorpaena brasiliensis						X	X	X		X	X	X
Scorpaena calcarata							X	X			X	X
TRIGLIDAE						X				X		
Bellator sp.							X	X			X	X
Bellator militaris						X	X	X		X	X	X
Peristedion sp.					X			X	X			X
Prionotus sp.	X				X		X	X	X		X	X
Prionotus carolinus							X				X	
Prionotus evolans							X				X	
Prionotus pectoralis							X	X			X	X
Prionotus roseus						X		X		X		X
Astroscopus y-graecum	X								X			
Kathetostoma albigutta							X	X			X	X
BROTULIDAE					X				X			
OPHIDIIDAE	X				X		X	X	X	X	X	X
Lepophidium sp.	X							X	X			X
Ophidion holbrooki		X					X	X		X	X	X
Otophidium gravi							X				X	
Peprilus sp.	X								X			
Peprilus alepidotus	X								X			
Peprilus paru [?]	X				X				X			X
Poronotus triacanthus	X				X	X		X	X		X	X
Sphyraena sp.	X				X				X			X
Ancylopsetta sp.						X			X			
Ancylopsetta quadrocellata					X							X
Bothus sp.					X			X				X
Citharichthys sp.						X			X			
Citharichthys arctifrons								X				X
Citharichthys macrops	X								X			
Etropus sp.	X								X			
Etropus crossotus					X							X
Hippoglossina oblonga						X			X			
Paralichthys sp.					X			X				X
Paralichthys albigutta	X								X			
Paralichthys dentatus	X								X			
Paralichthys lethostigma	X				X				X			X
Paralichthys squamilentus						X		X	X			X
Syacium sp.	X				X			X	X			X
Poecilopsetta sp.	X								X			
Gymnachirus nudus								X				X
Symphurus sp.	X	X						X	X	X		X
MONACANTHIDAE	X							X	X			X
Monacanthus sp.	X						X	X	X		X	X
Stephanolepis hispidus					X			X				X
Acanthostracion quadricornis		X								X		
Lactophrys trigonus	X	X			X			X	X	X		X
Sphaeroides sp.	X						X	X	X		X	X
Opsanus sp.	X								X			
Porichthys sp.		X						X		X		X
Antennarius radiosus								X				X
Histrio histrio							X				X	
Halieutichthys aculeatus							X				X	
Ogcocephalus sp.				X	X	X	X	X	X	X	X	X
Anemones or coral					X			X	X			X
Starfish	X	X		X	X		X	X	X	X	X	X
Sand dollars or sea urchins	X	X		X				X	X	X		
Sea cucumber												X
Misc. gastropods												
Misc. bivalve mollusks	X	X		X	X	X	X	X	X	X	X	X
Squid or octopus	X			X	X		X	X	X		X	X
Stomatopod crustaceans	X	X		X	X	X	X	X	X	X	X	X
Penaeid shrimp	X	X		X	X	X	X	X	X	X	X	X
Misc. decapod crustacea	X	X		X	X	X	X	X	X	X	X	X
Misc. invertebrates	X	X			X			X	X		X	
Number of trawl stations	28	2	0	8	8	5	4	14	36	7	4	22

Oblique and horizontal plankton tows were made routinely with half-meter nets on T. N. Gill cruises off the southeastern coast of the United States during 1953-54. Information gained to date from the zooplankton data and material from samples taken in the Cape Canaveral Area is given in tables 13-19 and figures 8-10. These data are extracts from Gill cruise reports (Anderson, Gehringer, and Cohen, 1956a and 1956b; Anderson and Gehringer, 1957a, 1957b, 1958a, 1958b, 1959a, 1959b, and 1960) and from a study of chaetognaths from Gill cruise samples (Pierce and Wass, 1962). Several of the organisms identified from these plankton samples and wet volumes of plankton are discussed in detail. Thomas E. Bowman, U.S. National Museum, furnished identifications of copepods in plankton samples from the first four T. N. Gill cruises.

WET VOLUMES OF PLANKTON

Wet volumes of plankton for individual samples ranged from 16 to 672 ml. per 1,000 $m.^3$ of water strained (table 13). Average values, in ml. per 1,000 $m.^3$ of water strained, for surface- to 20-fathom waters (146.3-328.2) were higher than those for 20- to 100-fathom waters (102.3-301.2), and spring and summer values (263.3-317.4) were approximately double those for the winter and fall (139.1-154.4). Summer values averaged higher than those for the other seasons (table 13 and fig. 8).

Table 13.--Wet volumes of plankton, ml. per 1000 m^3 of water, Continental Shelf off Cape Canaveral Area, from plankton samples (oblique or surface tow, half-meter net), T. N. Gill cruises 1953-54, by depth of water and by season

[Individual values are volumes for separate samples]

	Winter	Spring	Summer	Fall
0-20 fathoms				
	87	220	430	401
	243	449	581	235
	109	672	259	188
		193	326	110
		108	187	28
		251	308	20
			101	
			422	
			340	
Total	439	1,893	2,954	982
Average	146.3	315.5	328.2	163.7
20-100 fathoms				
	111	168	216	16
	222	188	335	128
		270	203	114
		114	483	151
			318	
			252	
Total	333	740	1,807	409
Average	166.5	185.0	301.2	102.3
0-100 fathoms				
	Winter	Spring	Summer	Fall
0-20 fathoms	439	1,893	2,954	982
20-100 fathoms	333	740	1,807	409
Total	772	2,633	4,761	1,391
No. of samples	5	10	15	10
Average	154.4	263.3	317.4	139.1

FISH EGGS

Numbers of fish eggs per 100 $m.^3$ of water strained for individual samples ranged from 1 to 9,784 (table 14). Average values, in numbers per 100 $m.^3$ of water strained, in surface to 20 fathoms in the spring and summer (2,441.8 and 1,192.7) exceeded by roughly 15 to 100 times those in the fall and winter (23.2 and 84.0). In 20 to 100 fathoms, average winter, spring, and summer values were nearly equal (767.5, 677.8, and 792.5, respectively) and approximately one-third to one-half the spring and summer values inshore (2,441.8 and 1,192.7) and were four to five times the values for the fall (143.2). Average values for the area as a whole in the spring and summer (1,736.2 and 1,032.6) were approximately 3 to 20 times those for the fall and winter (83.2 and 311.8), table 14 and figure 9.

Menhaden eggs were identified from plankton samples obtained during February on a winter Gill cruise, from 20 to 100 fathoms (Reintjes, 1961). Reintjes (1961) stated, "...menhaden spawn along the south Atlantic coast generally from December to February. Furthermore, the principal spawning areas may be limited to certain localities, namely, Cape Lookout and Cape Canaveral to Jupiter Inlet."

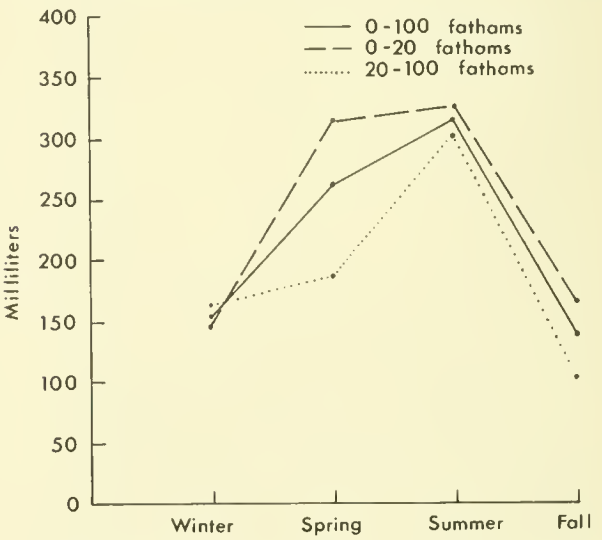


Figure 8.--Wet volumes of plankton, ml. per 1,000 $m.^3$ of water, Continental Shelf off Cape Canaveral Area, from plankton samples, T. N. Gill crulses 1953-54, average values by depth of water and by season.

Table 14.--Numbers of fish eggs per 100 $m.^3$ of water, Continental Shelf off Cape Canaveral Area, from plankton samples (oblique or surface tow, half-meter net) T. N. Gill cruises 1953-54, by depth of water and by season

[Individual values are counts for separate samples]

0-20 fathoms

Winter	Spring	Summer	Fall
7	656	150	7
21	2,806	2,222	6
138	9,784	846	54
170	596	85	26
	529	280	
	280	1,998	
		2	
		98	
		5,053	
Total 336	14,651	10,734	93
Average 84.0	2,441.8	1,192.7	23.2

20-100 fathoms

Winter	Spring	Summer	Fall
205	1,310	1,171	4
1,330	138	249	360
	909	104	197
	354	296	12
		2,889	
		46	
Total 1,535	2,711	4,755	573
Average 767.5	677.8	792.5	143.2

0-100 fathoms

	Winter	Spring	Summer	Fall
0-20 fathoms	336	14,651	10,734	93
20-100 fathoms	1,535	2,711	4,755	573
Total	1,871	17,362	15,489	666
No. of samples	6	10	15	8
Average	311.8	1,736.2	1,032.6	83.2

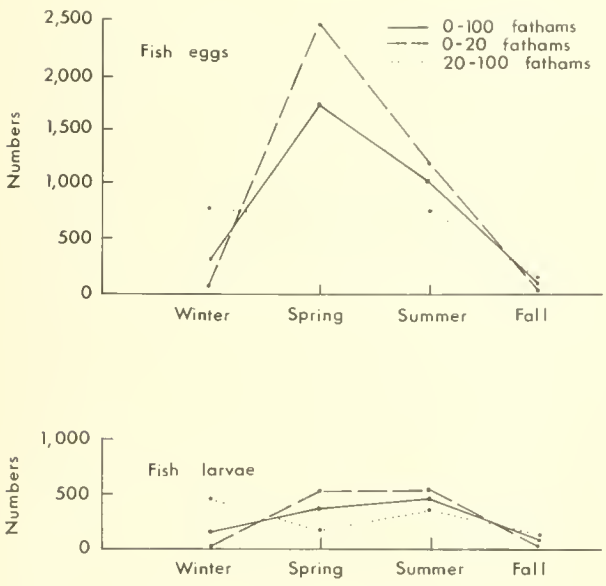


Figure 9.--Numbers of fish eggs and fish larvae per 100 $m.^3$ of water, Continental Shelf off Cape Canaveral Area, from plankton samples, T. N. Gill cruises 1953-54, average values by depth of water and by season.

FISH LARVAE

Numbers of fish larvae per 100 $m.^3$ of water strained ranged from 2 to 2,728 (table 15). Average values, in numbers per 100 $m.^3$ of water strained, in surface to 20 fathoms for the spring and summer (529.0 and 564.8) were 13 to 33 times those for the winter and fall (16.5 and 41.0). In 20 to 100 fathoms, average winter and summer values (469.0 and 372.5) were about three to four times those in the spring and fall (170.0 and 131.0). Spring and summer values in surface to 20 fathoms (529.0 and 564.8) were one and one-half to three times those in 20 to 100 fathoms. Average values for the area as a whole in the spring and summer (385.4 and 487.9) were approximately three to five times those for the fall and winter (77.0 and 167.3) (table 15 and fig. 9).

Menhaden larvae were identified from samples obtained in February on one winter Gill cruise in the Cape Canaveral Area from surface to 20 fathoms and 20 to 100 fathoms (Reintjes, 1961).

COPEPODS

Numbers of copepods per 100 $m.^3$ of water strained ranged from 960 to 89,720 (table 16). Average values in waters of surface to 20 fathoms were low in the spring (22,222) and increased through the summer (39,308) and fall (43,398) to a high in the winter (48,587). In 20 to 100 fathoms the low also occurred in the spring (18,227), but the high occurred in the summer (38,822). Average values for inshore and offshore were similar in the spring (22,222 and 18,227) and summer (39,308 and 38,822). Average inshore values for the winter and fall (48,587 and 43,398) approximately doubled those for offshore (24,960 and 22,355). For the area as a whole, similar high values (40,712 and 39,113) occurred in the winter and summer, a somewhat lower value (34,981) occurred in the fall, and the low (20,624) occurred in the spring (table 16 and fig. 10).

Species composition identifications by Thomas E. Bowman for one season (with but one sample for inshore during the winter) show 23 species inshore and 22 species offshore during the spring, 17 species inshore and 32 species offshore during the summer, and 11 species inshore and 14 species offshore during the fall. Offshore samples averaged 22 species for the three seasons and inshore samples averaged 17 species. Generally the greatest numbers of species occurred in areas of least numbers of specimens (tables 16 and 17).

Ten species were found in spring samples only, 11 in summer samples only, 1 in the fall only, and 3 in all four seasons. Fourteen

Table 15.--Numbers of fish larvae per 100 $m.^3$ of water, Continental Shelf off Cape Canaveral Area, from plankton samples (oblique or surface tow, half-meter net), T. N. Gill cruises 1953-54, by depth of water and by season

[Individual values are counts for separate samples]

0-20 fathoms

	Winter	Spring	Summer	Fall
	2	55	923	20
	38	128	409	4
	17	2,728	426	9
	9	87	454	209
		27	106	2
		149	1,229	2
			184	
			1,140	
			212	
Total	66	3,174	5,083	246
Average	16.5	529.0	564.8	41.0

20-100 fathoms

	Winter	Spring	Summer	Fall
	123	84	167	27
	815	105	305	77
		370	570	348
		121	417	72
			211	
			565	
Total	938	680	2,235	524
Average	469.0	170.0	372.5	131.0

0-100 fathoms

	Winter	Spring	Summer	Fall
0-20 fathoms	66	3,174	5,083	246
20-100 fathoms	938	680	2,235	524
Total	1,004	3,854	7,318	770
No. of samples	6	10	15	10
Average	167.3	385.4	487.9	77.0

Table 16.--Numbers of copepods per 100 $m.^3$ of water, Continental Shelf off Cape Canaveral Area, from plankton samples (oblique or surface tow, half-meter net), T. N. Gill cruises 1953-54, by depth of water and by season

[Individual values are counts for separate samples]

0-20 fathoms

	Winter	Spring	Summer	Fall
	1,000	31,360	77,810	46,710
	89,720	6,250	79,090	56,510
	52,020	35,050	12,760	40,280
	51,610	3,080	21,440	74,530
		7,460	23,400	960
		50,130	42,540	41,400
			1,480	
			46,890	
			48,360	
Total	194,350	133,330	353,770	260,390
Average	48,587	22,222	39,308	43,398

20-100 fathoms

	Winter	Spring	Summer	Fall
	17,350	17,840	64,400	7,240
	32,570	7,400	42,400	56,840
		23,170	31,420	11,620
		24,500	24,240	13,720
			40,870	
			29,600	
Total	49,920	72,910	232,930	89,420
Average	24,960	18,227	38,822	22,355

0-100 fathoms

	Winter	Spring	Summer	Fall
0-20 fathoms	194,350	133,330	353,770	260,390
20-100 fathoms	49,920	72,910	232,930	89,420
Total	244,270	206,240	586,700	349,810
No. of samples	6	10	15	10
Average	40,712	20,624	39,113	34,981

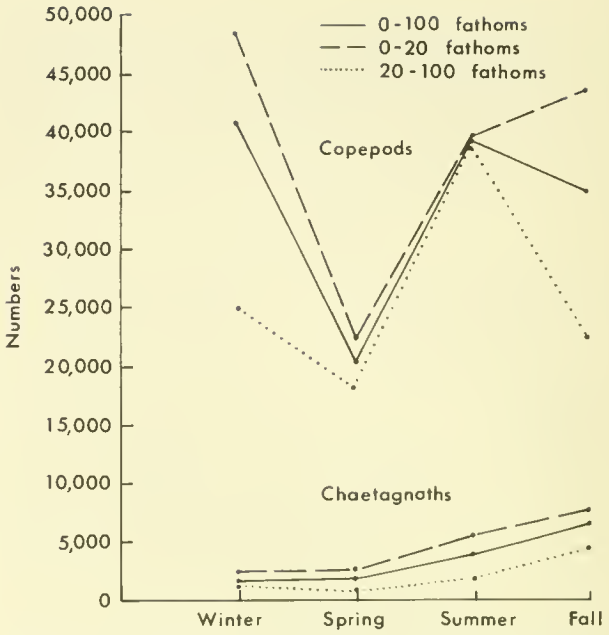


Figure 10.--Numbers of copepods and chaetognaths per 100 $m.^3$ of water, Continental Shelf off Cape Canaveral Area, from plankton samples, T. N. Gill cruises 1953-54, average values by depth of water and season.

species occurred in all three seasons; spring, summer, and fall samples. Three species were found only in surface to 20 fathoms, and 16 species occurred only in 20 to 100 fathoms (table 17).

CHAETOGNATHS

Numbers of chaetognaths per 100 $m.^3$ of water strained (table 18) ranged from 10 to 17,000. Average numbers for samples in surface to 20 fathoms increased from a low in the winter (2,237.5) through the spring (2,715.0) and summer (5,574.4) to a high in the fall (7,883.3). In 20 to 100 fathoms the low was in the spring (792.5), with the winter next (1,250.0), then the summer (1,868.3), and the high in the fall (4,150.0). Average spring and summer values in surface to 20 fathoms (2,715.0 and 5,574.4) were about three times those for 20 to 100 fathoms (792.5 and 1,868.3), and winter and fall values in surface to 20 fathoms (2,237.5 and 7,883.3) were a little less than twice those in 20 to 100 fathoms (1,250.0 and 4,150.0). For the area as a whole similar low average values (1,908.3 and 1,946.0) occurred in the winter and spring; the average value doubled in the summer (4,092.0); and by the fall the value was approximately three times (6,390.0) those of the winter and spring (table 18 and fig. 10).

Pierce and Wass (1962) presented their identifications and interpretations of occurrences of the adult forms of chaetognaths in plankton samples from T. N. Gill cruises in

Table 17.--Species of copepods identified from plankton samples in Cape Canaveral Area, T. N. Gill cruises 1-4, 1953, by season and depth of water

[Identifications by Thomas E. Bowman]

Species	Winter		Spring		Summer		Fall		Species occurring winter only		Species occurring spring only		Species occurring summer only		Species occurring fall only		Species occurring all seasons		Species occurring spring summer and fall		Species occurring one depth only	
	0-20 fms.	20-100 fms.	0-20 fms.	20-100 fms.	0-20 fms.	20-100 fms.	0-20 fms.	20-100 fms.	0-20 fms.	20-100 fms.	0-20 fms.	20-100 fms.	0-20 fms.	20-100 fms.	0-20 fms.	20-100 fms.	0-20 fms.	20-100 fms.	0-20 fms.	20-100 fms.	0-20 fms.	20-100 fms.
Acartia danae			X		X	X		X														
Acartia tonsa	X		X		X		X	X									X					
Acrocalanus andersoni					X	X							X	X								
Acrocalanus longicornis				X	X	X																
Calanopia americana	X		X		X	X	X	X									X					
Calanus minor			X	X	X	X																
Calanus robustior				X								X										X
Calanus tenuicornis						X								X								X
Calocalanus gracilis								X							X							X
Calocalanus pavo			X	X	X	X																
Calocalanus plumulosus						X								X								X
Calocalanus styliremis						X								X								X
Candacia sp. (juvenile)			X			X		X														
Candacia pachydactyla				X								X										X
Centropages furcatus			X	X	X	X	X	X											X	X		
Centropages violaceous				X								X										X
Clausocalanus arcuicornis major						X		X														X
Clausocalanus arcuicornis minor			X			X																
Clausocalanus furcatus			X	X	X	X	X	X											X	X		
Ctenocalanus vanus			X								X										X	
Euaetidius giesbrechti						X								X								X
Eucalanus attenuatus			X	X		X																
Eucalanus crassus						X								X								X
Eucalanus elongatus			X	X							X	X										
Eucalanus pileatus			X	X	X	X	X	X											X	X		
Eucalanus subtenuis						X								X								X
Euchaeta marina				X		X		X												X		X
Labidocera sp.			X								X										X	
Labidocera aestiva	X		X	X	X	X	X										X					
Lucicutia flavicornis			X			X																
Lucicutia ovalis						X								X								X
Mecynocera clausi						X								X								X
Paracalanus aculeatus			X	X	X	X	X	X											X	X		
Paracalanus crassirostris					X		X	X														
Paracalanus parvus			X	X	X	X	X	X											X	X		
Pleuromamma abdominalis			X	X							X	X										
Pleuromamma gracilis						X								X								X
Pontellina plumata				X								X										X
Rhincalanus cornutus			X	X		X																
Scolecithrix danae			X	X		X																
Temora sp. (juvenile)	X								X												X	
Temora stylifer			X	X	X	X	X												X			
Temora turbinata			X	X	X	X	X	X											X	X		
Undinula vulgaris				X	X	X																

Table 18.--Numbers of chaetognaths per 100 m.^{3} of water, Continental Shelf off Cape Canaveral Area, from plankton samples (oblique or surface tow, half-meter net), T. N. Gill cruises 1953-54, by depth of water and by season

[Individual values are counts for separate samples]

0-20 fathoms

Winter	Spring	Summer	Fall
10	1,760	6,380	14,540
100	640	2,130	3,680
4,970	1,740	4,780	4,500
3,870	570	14,180	17,300
	2,750	10,310	1,110
	8,830	2,870	6,470
		2,720	
		2,000	
		4,800	
Total 8,950	16,290	50,170	47,300
Average 2,237.5	2,715.0	5,574.4	7,883.3

20-100 fathoms

Winter	Spring	Summer	Fall
1,180	900	650	5,800
1,320	960	3,720	3,030
	720	1,180	4,460
	590	1,510	5,310
		2,780	
		1,370	
Total 2,500	3,170	11,210	16,600
Average 1,250.0	792.5	1,868.3	4,150.0

0-100 fathoms

	Winter	Spring	Summer	Fall
0-20 fathoms	8,950	16,290	50,170	47,300
20-100 fathoms	2,500	3,170	11,210	16,600
Total	11,450	19,460	61,380	63,900
No. of samples	6	10	15	10
Average	1,908.3	1,946.0	4,092.0	6,390.0

1953 and 1954. Their data which are pertinent to the Cape Canaveral Area are given in table 19 and presented in the discussions concerning individual species as follows.

Of the 12 species discussed by Pierce and Wass, 9 occurred in both surface to 20 and 20 to 100 fathoms, 1 occurred only in 20 to 100 fathoms, 6 most abundantly in 20 to 100 fathoms, and 2 most abundantly in surface to 20 fathoms.

Sagitta enflata, the most abundant and widely distributed chaetognath on the south Atlantic coast (optimum conditions appear to be close to the 20-fathom curve, near the coast and farther offshore the numbers diminish), was most abundant in the Cape Canaveral Area in waters 20 to 100 fathoms.

Sagitta tenuis, most abundant inshore, diminishes rapidly beyond the 10-fathom curve and almost disappears in the Florida Current.

Sagitta helenae, typically a Continental Shelf species along the south Atlantic coast, appeared in approximately equal numbers in

Table 19.--Chaetognaths per 100 m.³ of water, from plankton samples, Cape Canaveral Area, T. N. Gill cruises 1952-54, by species, by individual sampling station, by depth of water

[Data are extracts from Pierce and Wass (1962)]

Species	0-20 fathoms			20-100 fathoms	
	Reg. Sta. No.			Reg. Sta. No.	
	11	12	13	10	14
Sagitta enflata					
Sagitta tenuis					
Sagitta helenae					
Sagitta serratodentata					
Sagitta hispida					
Sagitta minima					
Sagitta bipunctata					
Sagitta hexaptera					
Krohnitta pacifica					
Pterosagitta draco					

○ = 0 per cubic meter

⊕ = <0.1

◔ = 0.1 to 0.9

◪ = 1.0 to 3.0

◍ = >3

both surface to 20 fathoms and 20 to 100 fathoms off Cape Canaveral.

Sagitta serratodentata, an open ocean species widely distributed over the Continental Shelf, and noticeably absent from most Gill stations bordering the coast, appeared in greater numbers in 20 to 100 fathoms than in surface to 20 fathoms.

Sagitta hispida, limited to Gill stations nearest the coast, was more abundant at the surface to 20-fathom stations off Cape Canaveral than any other stations along the south Atlantic coast.

Sagitta minima occurred in maximum abundance along the edge of the Continental Shelf, with only a trace at one station in surface to 20 fathoms.

Sagitta bipunctata, seldom abundant but widely distributed over the outer portion of the shelf and across the Florida Current, is taken consistently in offshore waters.

Sagitta hexaptera, taken occasionally over the outer edge of the shelf, but principally in the Florida Current, appeared in low numbers in 20 to 100 fathoms off Cape Canaveral.

Krohnitta pacifica, never abundant, but widespread from the coast across the Florida Current, appeared in all samples in the Cape Canaveral Area but most abundantly in 20 to 100 fathoms.

Pterosagitta draco, widely distributed, from every Gill station beyond the 10-fathom curve along the south Atlantic coast, appeared in one Cape Canaveral sample inside the 20-fathom curve but in all samples from 20 to 100 fathoms.

Two species identified from T. N. Gill samples off the southeastern coast of the United States, Sagitta lyra and Krohnitta subtilis, did not occur in the samples from the Cape Canaveral Area.

DIP NET AND TROLL COLLECTIONS

The numbers and species of fishes taken by dip net at the surface in the Cape Canaveral Area during the T. N. Gill cruises in 1953-54 are given in table 20. The specimens of dolphin (Coryphaena hippurus), swordfish (Xiphias gladius), and silver mullet Mugil curema) are larvae or early stage juveniles. Specimens of the other species are juvenile or adults. All species listed occur commonly in the surface waters off the south Atlantic coast of the United States.

In table 21 are given the fish taken by surface trolling over the Continental Shelf off the Cape Canaveral Area during cruises of the T. N. Gill in 1953 and 1954. These wahoo, dolphin, little tuna, and king mackerel are all pelagic fish common to the area.

Table 20.--Numbers and species of fishes taken by dip net at surface on Continental Shelf off Cape Canaveral Area, T. N. Gill cruises 1953-54

Species	Date	Location N. Lat.	W. Long.	Water depth in fathoms 0-20	20-100
MONACANTHIDAE					
Stephanolepis hispidus	Oct. 14, 1953	29°00'	80°32'	1	
Do.	Oct. 14, 1953	29°00'	80°10'		32
Do.	Sept. 13, 1954	29°00'	80°32'	6	
ATHERINIDAE					
Membras martinica	Feb. 18, 1953	28°20'	80°33'	2	
BELONIDAE					
Strongylura acus	July 27, 1953	29°00'	80°32'	1	
Do.	Oct. 14, 1953	29°00'	80°10'		5
Do.	Sept. 13, 1954	29°00'	80°10'		1
Ablennes hians	Oct. 14, 1953	29°00'	80°10'		3
CARANGIDAE					
Caranx bartholomaei	Apr. 27, 1954	28°20'	80°10'		1
Caranx ruber	Apr. 27, 1954	29°00'	80°10'		2
CLUPEIDAE					
Etrumeus sadina	June 25, 1954	29°00'	80°10'		2
Opisthonema oglinum	Sept. 12, 1954	28°41'	80°35'	1	
CORYPHAENIDAE					
Coryphaena hippurus	Apr. 27, 1954	28°20'	80°10'		1
EXOCOETIDAE					
Parexocoetus brachypterus	July 27, 1953	28°20'	80°10'		1
Do.	Oct. 14, 1953	29°00'	80°10'		33
Do.	Feb. 2, 1954	29°00'	80°10'		33
Do.	Apr. 27, 1954	28°20'	80°10'		1
Do.	June 25, 1954	29°00'	80°32'	7	
Do.	June 25, 1954	29°00'	80°32'		2
Do.	Sept. 13, 1954	29°00'	80°32'	1	
Prognichthys gibbifrons	Oct. 14, 1953	29°00'	80°10'		1
Cypselurus heterurus	Feb. 2, 1954	29°00'	80°10'		2
Do.	June 25, 1954	29°00'	80°32'	1	
HEMIRAMPHIDAE					
Hyporhamphus unifasciatus	July 27, 1953	28°20'	80°33'	1	
Do.	Oct. 14, 1953	29°00'	80°32'	4	
Do.	Nov. 17, 1954	29°00'	80°32'	2	
Hemiramphus balao	Oct. 14, 1953	29°00'	80°10'		1
Do.	June 25, 1954	29°00'	80°32'	1	
Hemiramphus brasiliensis	Oct. 14, 1953	29°00'	80°10'		1
Do.	Sept. 12, 1954	28°41'	80°35'	1	
MUGILIDAE					
Mugil curema	Apr. 25, 1953	29°00'	80°33'	1	
MULLIDAE					
Mullus auratus	Apr. 25, 1953	29°00'	80°33'	10	
Do.	Apr. 27, 1954	28°20'	80°10'		1
Pseudupeneus maculatus	Apr. 27, 1954	28°20'	80°10'		2
XIPHIIDAE					
Xiphias gladius	Apr. 27, 1954	28°20'	80°10'		1
Total				48	181

Table 21.--Numbers and species of fishes taken by trolling at surface on Continental Shelf off Cape Canaveral Area, T. N. Gill cruises 1953-54

Species	Date	Location N. Lat.	W. Long.	Water depth in fathoms 0-20	20-100
Acanthocybium solanderi	Apr. 27, 1954	28°34'	80°22'	1	
Coryphaena hippurus	Apr. 24, 1953	28°20'	79°53'		1
Do.	Apr. 27, 1954	29°01'	80°32'		1
Euthynnus alletteratus	Feb. 11, 1953	28°35'	80°10'		1
Do.	Feb. 11, 1953	28°30'	80°08'		2
Do.	Feb. 11, 1953	28°28'	80°03'		1
Do.	Feb. 19, 1953	28°48'	80°27'	1	
Do.	Feb. 19, 1953	28°57'	80°03'		1
Do.	Feb. 19, 1953	28°59'	80°31'	1	
Do.	Feb. 19, 1953	29°02'	80°31'	1	
Do.	Feb. 19, 1953	29°07'	80°34'	1	
Do.	Feb. 19, 1953	29°10'	80°35'	1	
Do.	Apr. 27, 1954	29°00'	80°12'		1
Do.	June 24, 1954	28°21'	80°17'	1	
Do.	June 24, 1954	28°21'	80°18'	1	
Do.	Aug. 28, 1954	29°07'	80°25'	1	
Do.	Aug. 28, 1954	29°05'	80°24'	1	
Do.	Aug. 28, 1954	28°50'	80°20'	1	
Do.	Aug. 28, 1954	28°32'	80°16'	2	
Do.	Aug. 28, 1954	28°14'	80°14'	1	
Scomberomorus cavalla	July 27, 1953	28°47'	80°29'	1	
Do.	Aug. 28, 1954	28°36'	80°17'	1	
Do.	Nov. 17, 1954	28°38'	80°22'	1	
Total				17	7

RECREATIONAL FISHERY OF THE CAPE CANAVERAL AREA

With the increase in population accompanying the expansion of the activities of Cape Canaveral Missile Base during the past several years, there has been an increase in the use of the natural bodies of water for recreational purposes. The most important use is for fishing. The most recent sport fishery survey including material on the Cape Canaveral Area was conducted in 1955 and 1956 by Ellis, Rosen, and Moffett (1958). The present study was designed to evaluate the current status of this fishery.

A general survey trip was made into the Cape Canaveral Area in January 1963 to familiarize personnel with the physiographical features of the area; to obtain information on the locations of fish camps, fishing piers, fishing bridges, and other facilities and sites where the sports fishery is pursued and where catches might be sampled; and to find out where and when people fished, what baits they used, and what species they caught. Much of the information obtained came from the operators of marinas, fish camps, bait ships, and party and charter boats.

Through the information gained during the trip in January, a system of interviews with fishermen and camp operators was established, to be pursued on 4 consecutive days each month, one weekend and the following 2 weekdays. By the end of the February trip the procedures had been established for the best use of time and personnel. Additional surveys were made during the Fourth of July and Labor Day weekends to determine the effect these particular days might have on the total fishery.

The Cape Canaveral Area was divided into a Southern Section and a Northern Section because of differences in the fisheries themselves between the two sections and because there appeared to be a natural break in physiographical features. From March through June a four- to seven-man crew divided its time equally between the Northern and Southern sections. Beginning on the weekend of July 4, and continuing thereafter, the crew split into two teams, each sampling one section exclusively.

Figures 11 and 12 and table 22 show locations in the Cape Canaveral Area where the sport fishery was sampled. Numerals in squares refer to bridges and causeway locations; numerals in triangles refer to piers, both in the river and on the ocean; numerals in circles refer to fish camps where the rental boat fishery was sampled, and where some bank fishery sampling occurred; numerals in rectangles refer to surf fishery sampling locations; and numerals in hexagons refer to locations from where charter boats operate and where this fishery was sampled. Locations of other areas or facilities where bank fishing was sampled are designated in the descriptions of sampling locations for the Northern Section. See table 22 for a list of the sampling locations by numeral and symbol.

Location number 17, Sunglow Ocean Fishing Pier; 47, Timmons Fishing Camp; and 48, Inlet Harbor Fish Camp were not sampled during our field survey in 1963. Data pertinent to our studies were extracted from records maintained by these facilities. We are particularly indebted to the following who made records available to us: Gary Bennett, Cocoa; A Williams, Turtle Mound Fish Camps; V. R. Hall, publisher of the newspaper "Day by Day," Daytona Beach; publishers of the newspaper "Pelican," New Smyrna Beach; and Redwood Wharton, Inlet Harbor.

Our interview questions for fishermen included number of fishermen in party, length of time party had been fishing at that particular site that day, and what species of fish and how many of each had been caught. Length and weight estimates of fish were recorded if they were made.

Beginning in March, serially numbered cards in return-addressed envelopes were distributed to fishermen who hadn't completed fishing

Table 22.--List of sampling locations shown on figures 11 and 12, where the sport fishery of the Cape Canaveral Area was sampled in 1963

Symbol	No.	Facility site
		Bridges and causeways
Square	1	Bridges and causeway between Melbourne and Indialantic.
Do.	2	Bridges and causeway between Eau Gallie and Canova Beach.
Do.	3	Mathers Bridge.
Do.	4	Bridges and causeway between Cocoa and Cocoa Beach.
Do.	5	Titusville Bridge and Causeway on Florida State Highway No. 402.
Do.	6	Bridge at 5th Street at New Smyrna Beach.
Do.	7	South Causeway Bridge at New Smyrna Beach.
Do.	8	Callalisa Creek Bridge.
Do.	9	North Causeway Bridge at New Smyrna Beach.
Do.	10	Bridge on Quay Brenta at New Smyrna Beach.
Do.	11	Bridge on North Causeway at New Smyrna City Docks.
		Piers
Triangle	12	Patrick Air Force Base.
Do.	13	Canaveral Pier.
Do.	14	Titusville Pier.
Do.	15	Edgewater City fishing and launch site.
Do.	16	North Causeway Pier near base of North Causeway Bridge.
Do.	17	Sunglow Ocean Fishing Pier.
		Fish camps
Circle	18	Mathers Bridge Fish Camp.
Do.	19	Marina at Patrick Air Force Base.
Do.	20	Cocoa Beach Fish Camp.
Do.	21	Barge Canal Fish Camp.
Do.	22	Titusville Marina and Correct Craft Basin.
Do.	23	J and J Fish Camp.
Do.	24	Pirtles Fish Camp.
Do.	25	Pairs Cove Fish Camp.
Do.	26	Allenhurst Fish Camp.
Do.	27	Indian Bead Fish Camp.
Do.	28	Beacon 42 Fish Camp.
Do.	29	Le Fils Fish Camp.
Do.	30	Lopez Fish Camp.
Do.	31	Bisset Bay Fish Camp.
Do.	32	Turtle Mound No. 2 Fish Camp.
Do.	33	Al Jo Fish Camp.
Do.	34	El Dora Fish Camp.
Do.	35	Jones Fish Camp.
Do.	36	Turtle Mound No. 1 (Old Turtle Mound) Fish Camp.
Do.	37	Joes Fish Camp.
Do.	38	Godfreys Fish Camp.
Do.	39	Dicks Fish Camp.
Do.	40	South Causeway Fish Camp.
Do.	41	North Riverside Bait Fish Camp.
		Surf fishing areas
Rectangle	42	Port Canaveral (South of S. Jetty to Canaveral Pier).
Do.	43	Ocean beach (3.5 miles north of Bethune Beach to opposite Turtle Mound No. 2).
Do.	44	Ponce de Leon Inlet mouth at Coast Guard Station.
		Charter boat locations
Hexagon	45	Port Canaveral.
Do.	46	New Smyrna City Dock.
Do.	47	Timmons Fishing Camp.
Do.	48	Inlet Harbor Fish Camp.

at the time of the interview and who indicated willingness to furnish end-of-day information on the hours fished and fish caught. During March-October, 4,643 cards were handed out and 1,268 or about 28 percent were returned. Data on the returned cards were added to the information obtained at the time of the interview, on the respective field interview sheets.

In an attempt to establish the ratio of rental boats fishing to all boats fishing (which we might use to project the catch of the private boat fishery from our sampling of rental boat fishery), flights were made on 1 weekend day and 1 weekday in February, April, July, and October, during which observers counted the number of boats fishing in the entire Cape Canaveral Area. Concurrently, ground observers made counts of rental boats out of fishing camps. It was impossible to sample the private boat fishery with the time and personnel available because of the hundred of docks and other private launch sites. Estimates based on aerial-ground survey ratios and our sample of the fish camp rental boats are believed to be representative of the catches by private boat fishermen.

Table 64 lists scientific and common names of all species of fish referenced in this report.

DESCRIPTION OF SOUTHERN SECTION AND ITS FISHERY

The Southern Section, located in Brevard County, extends from Cape Canaveral south to Melbourne (fig. 11). The distance from Cape Canaveral to Melbourne is approximately 26 air miles. Included in this section are: The causeways and bridges between Melbourne and Indialantic, between Eau Gallie and Canova Beach, and between Cocoa and Cocoa Beach, and Mathers Bridge; Canaveral and Patrick Air Force Base ocean piers; Port Canaveral, marina at Patrick Air Force Base; and Barge Canal, Cocoa Beach, and Mathers Bridge fish camps.

Fishing is pursued in the Indian and Banana Rivers, Sykes Creek, Newfound Harbor, Barge Canal, Port Canaveral Harbor, and the ocean (piers, surf, and boats). The causeways and Mathers Bridge are used both day and night, whereas fishing in the other areas is generally limited to the daylight hours. There are several public boat launching sites available, but those most frequently used are on the causeways, at Port Canaveral Harbor, and at Barge Canal Fish Camp. About 40 boats are available for rent from fish camps. Table 22 and figure 11 show locations of these facilities.

Three distinct types of fishing are available at Port Canaveral Harbor: Bank fishing, private boats, and party boats. The bank fishermen have three areas available: (1) Surf, the south jetty and the main ship channel, (2) boat docking areas on the south side of Port Canaveral, and (3) the turning basin. A launch site for private boats is available at the southwestern end of the main ship channel. Weather permitting, this facility is used heavily. Private boat fishing from the launch site at Port Canaveral is divided into two units: (1) Inside--the turning basin, main ship channel, north side of the channel, and off the north jetty and (2) ocean waters. Four party boats operate out of Port Canaveral. Weather and number of passengers determine the amount of time these boats are out. Usually boats leave the dock at 8 a.m. and return at 5 p.m. Each boat can accommodate about 50 people. The fishing area covered by the party boats in the Atlantic Ocean extends from north of Cape Canaveral south to about Indialantic. The preferred areas, as reported by boat operators, are about 25 miles east of Port Canaveral and 20 miles east of the Eau Gallie-Melbourne area.

Ocean fishing is done from Canaveral and Patrick Air Force Base ocean piers, from party and private boats out of Port Canaveral, and in the surf. Pier fishing is primarily for bottomfish, and party and private boat fishing is for either bottom or pelagic forms. There is little surf fishing in the Southern Section. Shrimp (live and dead), cut mullet, artificial lures, and squid are the baits most commonly used.

The majority of the inside fishing is done from causeways: Melbourne-Indialantic, Eau Gallie-Canova Beach, and Cocoa-Cocoa Beach, and from Mathers Bridge. There are numerous small private piers on the eastern and western shores of the Banana River in the proximity of Mathers Bridge. These private piers are used mainly in the warmer months. Some fishing is done by wading in the shallow river flats. In warm weather a great amount of fishing occurs on the causeways and Mathers Bridge at night. There is little or no night fishing at Port Canaveral Harbor, and the two ocean piers are closed by about 11 p.m. Most people fishing from boats in the rivers finish by dark, but on several warm, calm nights some boat fishing was observed.

The major species sought by the ocean fishermen are bluefish, mackerel, and red snapper. Black sea bass, dolphin, grouper, bonito, cabio, other snappers, triggerfish, black drum, sheepshead, porgies, grunt, croaker, whiting, sea catfish, and black margate are also caught.

The major species sought by the river and Port Canaveral Harbor fishermen are spotted sea trout, red and black drum, bluefish, and sheepshead. Sea catfish, puffers, yellowtail, pigfish, croaker, whiting, pinfish, mangrove snapper, spadefish, and flounder are also caught.

Skin and scuba divers have been observed spear fishing around the jetties at Port Canaveral, the channel buoys, and the old Canaveral Pier.

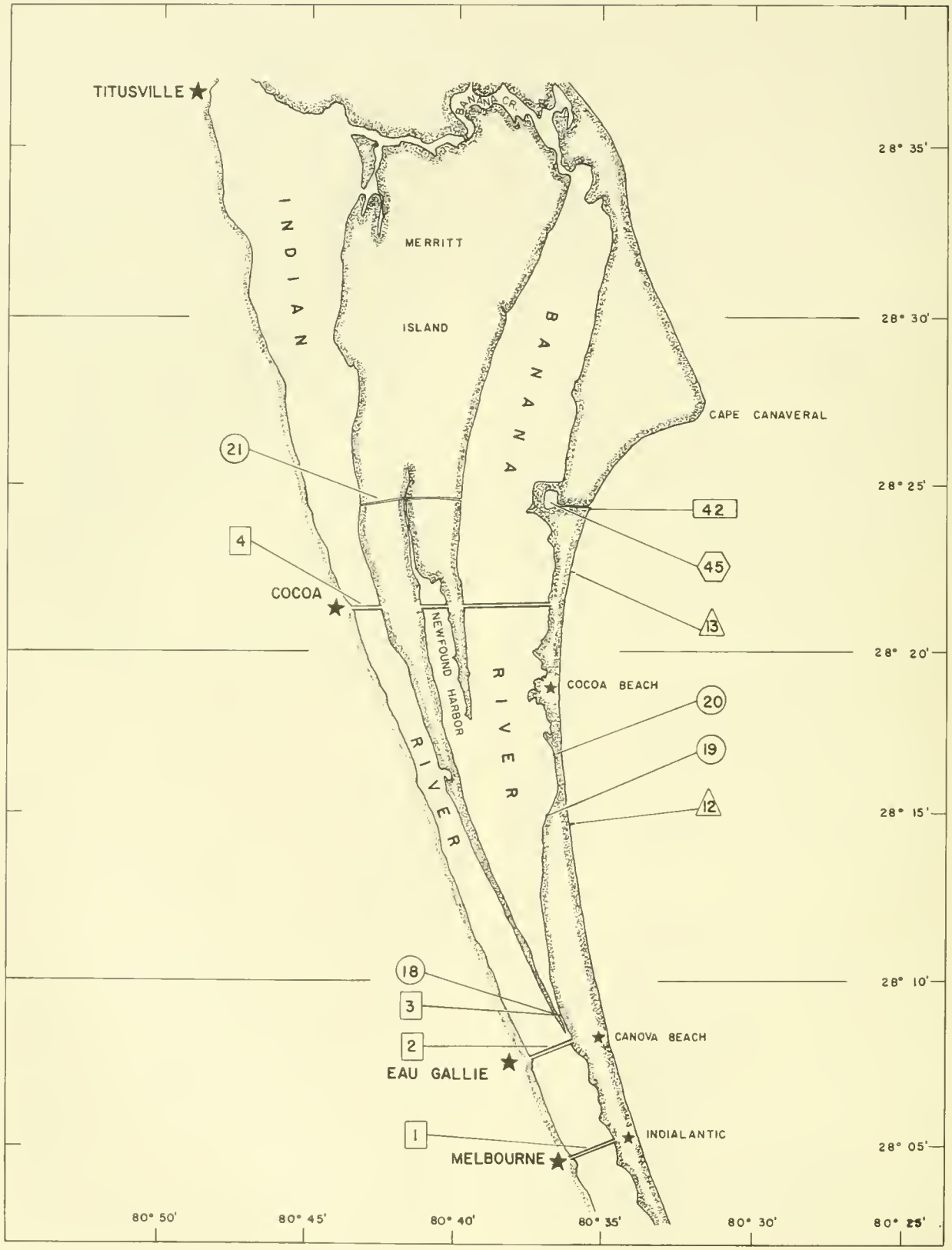


Figure 11.--Cape Canaveral Area, Southern Section. Symbols and enclosed numerals refer to locations where sport fishery catch was sampled in 1963 (see table 22 for list of locations by number and symbol).

Much shrimping was observed at night, generally from the bridges, from April to July, with the bulk of it completed by late July. During April and May the ratio of fishermen after shrimp to those after fish was as high as three to one. A gasoline lantern (Coleman type) is used to attract the shrimp which are dip netted as they move into the lighted area. The quantity of shrimp taken during this period is not known, but from the amount of shrimping done in April and May and from personal conversations with the shrimpers, indications are that considerable numbers are taken. A large amount of crabbing is done from July to September. Crabbers also use a Coleman-type lantern for attraction. The numbers of crabs taken in this manner are unknown, but several crabbers were seen with one-half bushel or more during some of the interview periods. The night light is also used by fishermen to attract fish, especially spotted sea trout.

Table 23.--Estimated sport fishery catch, Cape Canaveral Area; Southern Section, bridges and causeways combined; March-October 1963, numbers of fish and weight in pounds, by species, by month

Species	March		April		May		June		July	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Bluefish	395	592	5,811	8,716	--	--	--	--	--	--
Catfish	12,400	12,400	754	754	7,862	7,722	1,653	1,653	10,924	10,738
Croaker	--	--	--	--	278	139	71	35	1,147	573
Drum, black	1,576	21,670	--	--	1,140	15,675	165	2,269	116	1,595
Drum, red	--	--	--	--	--	--	464	928	113	226
Flounders	--	--	--	--	--	--	--	--	--	--
Grunts	--	--	--	--	--	--	390	195	331	165
Jack, crevalle	525	787	--	--	278	417	--	--	86	129
King whiting	5,482	4,111	174	130	2,131	1,598	7,043	5,282	5,655	4,241
Mullet	--	--	--	--	131	131	--	--	584	584
Pigfish	--	--	1,324	331	7,563	1,891	263	66	119	30
Pinfish	3,129	782	3,561	890	8,285	2,071	8,037	2,009	13,711	3,428
Pompano	--	--	--	--	1,159	579	--	--	327	163
Puffers	29,218	14,609	18,098	9,049	35,564	17,782	9,836	4,918	12,243	6,121
Rays	395	395	--	--	104	104	143	143	227	227
Sea trout, spotted	22,087	38,652	30,804	53,907	32,838	57,466	4,670	8,172	10,191	17,834
Sea trout, other	27,798	27,798	19,170	19,170	10,961	10,961	9,680	9,680	18,272	18,272
Sharks	--	--	--	--	--	--	71	248	29	101
Sheepshead	3,127	3,909	3,487	4,359	1,466	1,832	3,824	4,780	3,414	4,267
Snapper, mangrove	--	--	--	--	655	327	645	322	304	152
Spadefish	--	--	--	--	187	93	544	272	875	437
Spot	--	--	--	--	187	93	2,388	1,194	86	43
Tenpounder	251	251	281	281	589	589	--	--	213	213
Yellowtail	13,042	3,260	3,957	989	3,627	907	6,977	1,744	6,893	1,723
Unclassified fish	777	194	16,660	4,165	4,596	1,149	3,696	924	2,785	696
Total	120,202	129,410	104,081	102,741	119,601	121,526	60,560	44,834	88,645	71,958

Species	August		September		October		Total	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Bluefish	61	92	--	--	--	--	6,267	9,400
Catfish	11,611	11,466	18,490	17,975	1,814	1,771	65,508	64,479
Croaker	1,031	515	1,459	729	2,267	1,133	6,253	3,124
Drum, black	647	8,896	690	9,487	348	4,785	4,682	64,377
Drum, red	28	56	181	362	--	--	786	1,572
Flounders	69	86	--	--	--	--	69	86
Grunts	629	314	479	239	116	58	1,945	971
Jack, crevalle	826	1,239	435	652	--	--	2,150	3,224
King whiting	11,830	8,872	10,800	8,100	4,091	3,068	47,206	35,402
Mullet	4,236	4,236	1,495	1,495	748	748	7,194	7,194
Pigfish	1,379	345	4,392	1,098	1,148	287	16,188	4,048
Pinfish	14,001	3,500	26,645	6,661	13,207	3,302	90,576	22,643
Pompano	97	48	--	--	--	--	1,583	790
Puffers	7,406	3,703	37,473	18,736	5,330	2,665	155,168	77,583
Rays	181	181	650	650	57	57	1,757	1,757
Sea trout, spotted	5,428	9,499	8,749	15,311	5,467	9,567	120,234	210,408
Sea trout, other	19,077	19,077	24,250	24,250	27,588	27,588	156,796	156,796
Sharks	--	--	--	--	--	--	100	349
Sheepshead	3,436	4,295	4,651	5,814	2,324	2,905	25,729	32,161
Snapper, mangrove	367	183	545	272	--	--	2,516	1,256
Spadefish	1,441	720	2,822	1,411	963	481	6,832	3,414
Spot	158	79	1,915	957	244	122	4,978	2,488
Tenpounder	689	689	786	786	--	--	2,809	2,809
Yellowtail	9,714	2,428	13,014	3,253	2,626	656	59,850	14,960
Unclassified fish	2,628	657	8,673	2,168	3,064	766	42,879	10,719
Total	96,970	81,176	168,594	120,406	71,402	59,959	830,055	732,010

Table 24.--Estimated sport fishery catch, Cape Canaveral Area; Southern Section, bridges and causeways combined; 1963 spring, summer, and fall totals in numbers of fish and weight in pounds, by species

Species	Spring		Summer		Fall		Total	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Bluefish	6,206	9,308	61	92	--	--	6,267	9,400
Catfish	21,016	20,876	24,188	23,857	30,456	29,619	75,660	74,352
Croaker	278	139	2,249	1,123	5,589	2,793	8,116	4,055
Drum, black	2,716	37,345	928	12,760	1,557	21,408	5,201	71,513
Drum, red	--	--	605	1,210	272	543	877	1,753
Flounders	--	--	69	86	--	--	69	86
Grunts	--	--	1,350	674	892	446	2,242	1,120
Jack, crevalle	803	1,204	912	1,368	652	978	2,367	3,550
King whiting	7,787	5,839	24,528	18,395	22,336	16,752	54,651	40,986
Mullet	131	131	4,820	4,820	3,364	3,364	8,315	8,315
Pigfish	8,887	2,222	1,761	441	8,310	2,078	18,958	4,741
Pinfish	14,975	3,743	35,749	8,937	59,778	14,944	110,502	27,624
Pompano	1,159	579	424	211	--	--	1,583	790
Puffers	82,880	41,440	29,485	14,742	64,204	32,102	176,569	88,284
Rays	499	499	551	551	1,060	1,060	2,110	2,110
Sea trout, spotted	85,729	150,025	20,289	35,505	21,324	37,317	127,342	222,847
Sea trout, other	57,929	57,929	47,029	47,029	77,757	77,757	182,715	182,715
Sharks	--	--	100	349	--	--	100	349
Sheepshead	8,080	10,100	10,674	13,342	10,462	13,078	29,216	36,520
Snapper, mangrove	655	327	1,316	657	818	408	2,789	1,392
Spadefish	187	93	2,860	1,429	5,678	2,838	8,725	4,360
Spot	187	93	2,632	1,316	3,238	1,618	6,057	3,027
Tenpounder	1,121	1,121	902	902	1,179	1,179	3,202	3,202
Yellowtail	20,626	5,156	23,584	5,895	23,460	5,864	67,670	16,915
Unclassified fish	22,033	5,508	9,109	2,277	17,606	4,401	48,748	12,186
Total	343,884	353,677	246,175	197,968	359,992	270,547	950,051	822,192

Table 25.--Estimated sport fishery catch, Cape Canaveral Area; Southern Section, ocean piers combined; March-October 1963, numbers of fish and weight in pounds, by species, by month

Species	March		April		May		June		July	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Black margate	1,931	1,931	--	--	593	593	1,167	1,167	79	79
Bluefish	275	412	455	682	--	--	--	--	40	60
Catfish	22,827	22,827	1,306	1,306	106	106	62	62	1,790	1,754
Croaker	--	--	--	--	--	--	3,388	1,694	1,709	854
Cutlassfish	--	--	--	--	--	--	--	--	--	--
Drum, black	--	--	--	--	35	481	62	852	53	729
Flounders	--	--	--	--	--	--	--	--	16	20
Grunts	--	--	--	--	--	--	--	--	231	115
Jack, crevalle	507	760	89	133	--	--	--	--	16	24
King whiting	678	508	2,814	2,110	560	420	2,007	1,505	5,652	4,239
Little tuna	--	--	--	--	--	--	--	--	16	104
Mojarra	42	21	--	--	--	--	--	--	--	--
Pigfish	--	--	--	--	--	--	--	--	--	--
Pinfish	381	95	--	--	106	26	84	21	970	242
Pompano	--	--	--	--	--	--	--	--	--	--
Puffers	149	74	--	--	--	--	--	--	42	21
Rays	--	--	--	--	--	--	--	--	16	16
Sea bass, black	--	--	--	--	--	--	--	--	26	26
Sea bass, rock	--	--	--	--	--	--	--	--	152	38
Sea robin	--	--	--	--	--	--	62	15	53	13
Sea trout, spotted	191	334	89	156	--	--	84	147	119	208
Sea trout, other	149	149	--	--	--	--	--	--	32	32
Sharks	--	--	--	--	--	--	84	294	283	990
Sheepshead	149	186	--	--	--	--	259	324	--	--
Snapper, other	--	--	--	--	--	--	--	--	--	--
Spadefish	--	--	89	44	--	--	192	96	545	272
Spanish mackerel	42	73	--	--	--	--	--	--	--	--
Spot	210	105	--	--	177	88	947	473	3,217	1,608
Tenpounder	--	--	--	--	--	--	--	--	--	--
Yellowtail	--	--	--	--	--	--	--	--	275	69
Unclassified fish	42	10	--	--	--	--	306	76	3,302	825
Total	27,573	27,485	4,842	4,431	1,577	1,714	8,704	6,726	18,634	12,338

Species	August		September		October		Total	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Black margate	1,017	1,017	1,041	1,041	--	--	5,828	5,828
Bluefish	34	51	816	1,224	45	67	1,665	2,496
Catfish	3,372	3,703	2,833	2,757	654	654	32,950	33,169
Croaker	269	134	111	55	--	--	5,477	2,737
Cutlassfish	--	--	211	264	--	--	211	264
Drum, black	192	2,640	179	2,461	263	3,616	784	10,779
Flounders	253	360	137	171	--	--	406	551
Grunts	--	--	--	--	--	--	231	115
Jack, crevalle	152	228	144	216	--	--	908	1,361
King whiting	1,767	1,325	1,562	1,171	2,061	1,546	17,101	12,824
Little tuna	--	--	--	--	--	--	16	104
Mojarra	--	--	--	--	--	--	42	21
Pigfish	50	12	--	--	--	--	50	12
Pinfish	--	--	94	23	436	19	2,071	426
Pompano	51	25	467	233	354	177	872	435
Puffers	25	12	--	--	45	22	261	129
Rays	--	--	--	--	--	--	16	16
Sea bass, black	--	--	--	--	--	--	26	26
Sea bass, rock	25	6	293	73	--	--	470	117
Sea robin	175	44	193	48	--	--	483	120
Sea trout, spotted	25	44	--	--	--	--	508	889
Sea trout, other	--	--	--	--	127	190	308	371
Sharks	--	--	--	--	--	--	367	1,284
Sheepshead	185	231	68	85	654	817	1,315	1,643
Snapper, other	25	75	--	--	45	135	70	210
Spadefish	218	109	137	68	--	--	1,181	589
Spanish mackerel	--	--	--	--	--	--	42	73
Spot	354	177	--	--	45	22	4,950	2,473
Tenpounder	--	--	137	137	--	--	137	137
Yellowtail	51	13	26	6	--	--	352	88
Unclassified fish	252	63	1,370	342	--	--	5,272	1,316
Total	8,492	10,269	9,819	10,375	4,729	7,265	84,370	80,603

Table 26.--Estimated sport fishery catch, Cape Canaveral Area; Southern Section, ocean piers combined; 1963 spring, summer, and fall totals in numbers of fish and weight in pounds, by species

Species	Spring		Summer		Fall		Total	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Black margate	2,524	2,524	2,263	2,263	1,562	1,562	6,349	6,349
Bluefish	730	1,094	74	111	1,292	1,936	2,096	3,141
Catfish	24,239	24,239	5,224	5,519	5,230	5,116	34,693	34,874
Croaker	--	--	5,366	2,682	166	82	5,532	2,764
Cutlassfish	--	--	--	--	316	396	316	396
Drum, black	35	481	307	4,221	663	9,116	1,005	13,818
Flounders	--	--	269	380	206	256	475	636
Grunts	--	--	231	115	--	--	231	115
Jack, crevalle	596	893	168	252	216	324	980	1,469
King whiting	4,052	3,038	9,426	7,069	5,434	4,076	18,912	14,183
Little tuna	--	--	16	104	--	--	16	104
Mojarra	42	21	--	--	--	--	42	21
Pigfish	--	--	50	12	--	--	50	12
Pinfish	487	121	1,054	263	795	63	2,336	447
Pompano	--	--	51	25	1,232	615	1,283	640
Puffers	149	74	67	33	68	33	284	140
Rays	--	--	16	16	--	--	16	16
Sea bass, black	--	--	26	26	--	--	26	26
Sea bass, rock	--	--	177	44	440	110	617	154
Sea robin	--	--	290	72	290	72	580	144
Sea trout, spotted	280	490	228	399	--	--	508	889
Sea trout, other	149	149	32	32	190	285	371	466
Sharks	--	--	367	1,284	--	--	367	1,284
Sheepshead	149	186	444	555	1,083	1,353	1,676	2,094
Snapper, other	--	--	25	75	68	202	93	277
Spadefish	89	44	955	477	206	102	1,250	623
Spanish mackerel	42	73	--	--	--	--	42	73
Spot	387	193	4,518	2,258	68	33	4,973	2,484
Tenpounder	--	--	--	--	206	206	206	206
Yellowtail	--	--	326	82	39	9	365	91
Unclassified fish	42	10	3,860	964	2,055	513	5,957	1,487
Total	33,992	33,630	35,830	29,333	21,825	26,460	91,647	89,423

Table 27.--Estimated sport fishery catch, Cape Canaveral Area; Southern Section, Port Canaveral inside; March-October 1963, numbers of fish and weight in pounds, by species, by month

Species	March		April		May		June		July	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Barracuda	--	--	--	--	--	--	--	--	573	4,584
Black margate	--	--	--	--	--	--	--	--	--	--
Bluefish	8,286	12,429	795	1,192	58	87	--	--	--	--
Catfish	962	962	--	--	116	116	37	37	192	192
Croaker	389	194	598	299	2,775	1,387	1,343	671	11,491	5,745
Cutlassfish	407	509	994	1,242	575	719	97	121	662	827
Drum, black	201	2,764	--	--	58	797	272	3,740	1,520	20,900
Drum, red	72	144	--	--	--	--	--	--	58	116
Eels	--	--	--	--	25	50	--	--	--	--
Flounders	257	321	653	816	1,581	1,976	210	262	729	911
Groupers	--	--	--	--	84	840	--	--	--	--
Grunts	72	36	--	--	--	--	97	48	2,673	1,336
Jack, crevalle	1,049	1,573	95	142	461	691	--	--	218	327
Jack, other	510	510	--	--	--	--	--	--	26	26
King mackerel	260	2,080	--	--	51	408	--	--	--	--
King whiting	288	216	966	724	182	136	181	136	2,104	1,578
Little tuna	--	--	--	--	--	--	--	--	--	--
Mojarra	187	93	--	--	--	--	--	--	301	150
Mullet	101	101	--	--	182	182	--	--	51	51
Pigfish	--	--	--	--	--	--	--	--	809	202
Pinfish	420	105	5,522	1,380	4,785	1,196	2,283	571	14,140	3,535
Pompano	218	109	--	--	--	--	--	--	--	--
Puffers	245	122	--	--	--	--	--	--	--	--
Rays	--	--	--	--	--	--	--	--	--	--
Sea bass, black	--	--	--	--	25	25	97	97	--	--
Sea bass, rock	--	--	--	--	--	--	144	36	--	--
Sea robin	--	--	--	--	58	14	--	--	--	--
Sea trout, spotted	204	357	--	--	116	203	--	--	86	150
Sea trout, other	636	636	330	330	--	--	--	--	26	26
Sharks	1,284	4,494	--	--	58	203	--	--	51	178
Sheepshead	182	227	519	649	83	104	--	--	3,081	3,851
Snapper, red	--	--	--	--	--	--	--	--	--	--
Snapper, mangrove	--	--	--	--	84	42	--	--	436	218
Snapper, other	--	--	141	423	--	--	--	--	--	--
Spadefish	--	--	--	--	--	--	193	96	340	170
Spanish mackerel	17	30	--	--	--	--	--	--	--	--
Spot	3,194	1,097	748	374	893	446	1,715	857	4,345	2,172
Tenpounder	--	--	--	--	--	--	--	--	--	--
Yellowtail	--	--	--	--	--	--	--	--	51	13
Unclassified fish	101	25	607	152	109	27	503	126	1,408	352
Total	18,542	29,134	11,968	7,723	12,359	9,649	7,172	6,798	45,371	47,610

Species	August		September		October		Total	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Barracuda	--	--	--	--	--	--	573	4,584
Black margate	530	530	705	705	--	--	1,235	1,235
Bluefish	56	84	14	21	56	84	9,265	13,897
Catfish	255	237	962	881	992	992	3,516	3,417
Croaker	706	353	768	384	668	334	18,738	9,367
Cutlassfish	288	360	14	17	--	--	3,037	3,795
Drum, black	104	1,430	160	2,200	940	12,925	3,255	44,756
Drum, red	16	32	25	50	228	456	399	798
Eels	8	16	25	50	--	--	58	116
Flounders	255	319	101	126	98	122	3,884	4,853
Groupers	--	--	--	--	45	450	129	1,290
Grunts	70	35	258	129	--	--	3,170	1,584
Jack, crevalle	171	256	102	153	243	364	2,339	3,506
Jack, other	71	71	--	--	280	280	887	887
King mackerel	--	--	58	464	--	--	369	2,952
King whiting	186	139	209	157	675	506	4,791	3,592
Little tuna	342	2,223	35	227	--	--	377	2,450
Mojarra	170	85	157	78	2,638	1,319	3,453	1,725
Mullet	161	161	25	25	--	--	520	520
Pigfish	42	10	313	78	--	--	1,164	290
Pinfish	2,153	538	2,011	503	1,090	272	32,404	8,100
Pompano	40	20	49	24	56	28	363	181
Puffers	20	10	--	--	--	--	265	132
Rays	36	36	63	63	--	--	99	99
Sea bass, black	20	20	35	35	--	--	177	177
Sea bass, rock	--	--	98	24	--	--	242	60
Sea robin	--	--	25	6	--	--	83	20
Sea trout, spotted	78	136	317	555	--	--	801	1,401
Sea trout, other	38	38	35	35	260	260	1,325	1,325
Sharks	--	--	98	343	--	--	1,491	5,218
Sheepshead	472	590	708	885	802	1,002	5,847	7,308
Snapper, red	38	304	--	--	--	--	38	304
Snapper, mangrove	162	81	565	282	232	116	1,479	739
Snapper, other	--	--	14	42	--	--	155	465
Spadefish	184	92	578	289	277	138	1,572	785
Spanish mackerel	--	--	--	--	183	320	200	350
Spot	3,913	1,956	1,389	694	56	28	15,253	7,624
Tenpounder	--	--	25	25	--	--	25	25
Yellowtail	--	--	14	3	158	39	223	55
Unclassified fish	514	135	219	55	591	148	4,079	1,020
Total	11,126	10,297	10,174	9,608	10,568	20,183	127,280	141,002

Table 28.--Estimated sport fishery catch, Cape Canaveral Area; Southern Section, Port Canaveral inside; 1963 spring, summer, and fall totals in numbers of fish and weight in pounds, by species

Species	Spring		Summer		Fall		Total	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Barracuda	--	--	573	4,584	--	--	573	4,584
Black margate	--	--	530	530	1,058	1,058	1,588	1,588
Bluefish	9,139	13,708	56	84	105	158	9,300	13,950
Catfish	1,078	1,078	484	466	2,931	2,810	4,493	4,354
Croaker	3,762	1,880	13,540	6,769	2,154	1,077	19,456	9,726
Cutlassfish	1,976	2,470	1,047	1,308	21	26	3,044	3,804
Drum, black	259	3,561	1,896	26,070	1,650	22,688	3,805	52,319
Drum, red	72	144	74	148	380	759	526	1,051
Eels	25	50	8	16	38	75	71	141
Flounders	2,491	3,113	1,194	1,492	299	372	3,984	4,977
Groupers	84	840	--	--	68	675	152	1,515
Grunts	72	36	2,840	1,419	387	194	3,299	1,649
Jack, crevalle	1,605	2,406	389	583	518	776	2,512	3,765
Jack, other	510	510	97	97	420	420	1,027	1,027
King mackerel	311	2,488	--	--	87	696	398	3,184
King whiting	1,436	1,076	2,471	1,853	1,326	994	5,233	3,923
Little tuna	--	--	342	2,223	53	340	395	2,563
Mojarra	187	93	471	235	4,193	2,096	4,851	2,424
Mullet	283	283	212	212	38	38	533	533
Pigfish	--	--	851	212	470	117	1,321	329
Pinfish	10,727	2,681	18,576	4,644	4,652	1,162	33,955	8,487
Pompano	218	109	40	20	158	78	416	207
Puffers	245	122	20	10	--	--	265	132
Rays	--	--	36	36	95	94	131	130
Sea bass, black	25	25	117	117	53	52	195	194
Sea bass, rock	--	--	144	36	147	36	291	72
Sea robin	58	14	--	--	38	9	96	23
Sea trout, spotted	320	560	164	286	476	832	960	1,678
Sea trout, other	966	966	64	64	443	443	1,473	1,473
Sharks	1,342	4,697	51	178	147	514	1,540	5,389
Sheepshead	784	980	3,553	4,441	2,265	2,830	6,602	8,251
Snapper, red	--	--	38	304	--	--	38	304
Snapper, mangrove	84	42	598	299	1,196	597	1,878	938
Snapper, other	141	423	--	--	21	63	162	486
Spadefish	--	--	717	358	1,283	640	2,000	998
Spanish mackerel	17	30	--	--	275	480	292	510
Spot	3,835	1,917	9,973	4,985	2,168	1,083	15,976	7,985
Tenpounder	--	--	--	--	38	38	38	38
Yellowtail	--	--	51	13	258	63	309	76
Unclassified fish	817	204	2,452	613	1,215	304	4,484	1,121
Total	42,869	46,506	63,669	64,705	31,124	44,687	137,662	155,898

Table 29.--Estimated sport fishery catch, Cape Canaveral Area; Southern Section, Port Canaveral outside; January-October 1963, numbers of fish and weight in pounds, by species, by month

Species	January		February		March		April		May		June	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Amberjack	46	690	--	--	14	210	--	--	184	2,760	82	1,230
Barracuda	--	--	--	--	--	--	--	--	--	--	--	--
Black margate	--	--	--	--	--	--	--	--	--	--	--	--
Bluefish	--	--	--	--	--	--	96	144	26	39	--	--
Cabio	15	135	--	--	--	--	--	--	--	--	54	486
Catfish	--	--	--	--	--	--	--	--	--	--	--	--
Croaker	--	--	--	--	--	--	--	--	82	41	133	66
Dolphin	--	--	--	--	--	--	--	--	26	208	20	160
Drum, black	--	--	--	--	--	--	--	--	--	--	--	--
Flounders	--	--	--	--	--	--	--	--	--	--	14	17
Groupers	124	1,240	9	90	14	140	--	--	261	2,610	48	480
Grunts	--	--	41	20	86	43	--	--	--	--	--	--
Jack, crevalle	--	--	--	--	51	76	--	--	15	22	--	--
King mackerel	1,756	14,048	--	--	27	216	--	--	610	4,880	468	3,744
King whiting	--	--	--	--	--	--	--	--	53	40	--	--
Little tuna	--	--	--	--	136	884	--	--	--	--	--	--
Pigfish	--	--	--	--	--	--	--	--	15	4	--	--
Pinfish	15	4	--	--	--	--	--	--	--	--	366	91
Porgies	302	604	100	200	86	172	--	--	--	--	--	--
Sea bass, black	433	433	2,505	2,505	1,127	1,127	--	--	1,717	1,717	20	20
Sea bass, rock	--	--	--	--	--	--	--	--	--	--	61	15
Sea trout, spotted	--	--	--	--	--	--	--	--	53	93	--	--
Sea trout, other	--	--	--	--	--	--	--	--	--	--	--	--
Sharks	--	--	--	--	--	--	--	--	41	143	34	119
Sheepshead	--	--	--	--	13	16	--	--	--	--	--	--
Snapper, red	1,996	15,968	56	448	86	688	--	--	955	7,640	870	6,960
Snapper, other	1,833	5,499	53	159	14	42	--	--	369	1,107	340	1,020
Spadefish	--	--	--	--	--	--	--	--	--	--	14	7
Spanish mackerel	--	--	--	--	--	--	--	--	--	--	68	119
Spot	--	--	--	--	--	--	--	--	--	--	--	--
Tenpounder	--	--	--	--	--	--	--	--	--	--	--	--
Triggerfish	46	115	165	412	--	--	--	--	54	135	--	--
Yellowtail	23	6	--	--	--	--	--	--	--	--	--	--
Unclassified fish	--	--	--	--	--	--	--	--	--	--	--	--
Total	6,589	38,742	2,929	3,834	1,654	3,614	96	144	4,461	21,439	2,592	14,534

Species	July		August		September		October		Total	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Amberjack	505	7,575	14	210	--	--	69	1,035	914	13,710
Barracuda	15	120	54	432	--	--	--	--	69	552
Black margate	--	--	102	102	--	--	--	--	102	102
Bluefish	15	22	24	36	--	--	--	--	161	241
Cabio	62	558	29	261	19	171	53	477	232	2,088
Catfish	--	--	10	10	--	--	--	--	10	10
Croaker	--	--	252	126	--	--	--	--	467	233
Dolphin	35	280	378	3,024	102	816	--	--	561	4,488
Drum, black	--	--	15	206	--	--	--	--	15	206
Flounders	5	6	10	12	5	6	--	--	34	41
Groupers	63	630	115	1,150	64	640	191	1,910	889	8,890
Grunts	--	--	--	--	275	137	--	--	402	200
Jack, crevalle	22	33	15	22	53	79	--	--	156	232
King mackerel	197	1,576	1,036	8,288	238	1,904	--	--	4,332	34,656
King whiting	--	--	10	7	--	--	--	--	63	47
Little tuna	334	2,171	355	2,307	133	864	15	97	973	6,323
Pigfish	--	--	--	--	--	--	--	--	15	4
Pinfish	--	--	10	2	--	--	--	--	391	97
Porgies	--	--	--	--	--	--	--	--	488	976
Sea bass, black	3,582	3,582	2,417	2,417	1,299	1,299	84	84	13,184	13,184
Sea bass, rock	--	--	--	--	--	--	--	--	61	15
Sea trout, spotted	--	--	10	17	--	--	--	--	63	110
Sea trout, other	--	--	49	49	--	--	--	--	49	49
Sharks	--	--	24	84	8	28	--	--	107	374
Sheepshead	--	--	126	157	--	--	--	--	139	173
Snapper, red	1,598	12,784	830	6,640	1,056	8,448	4,479	35,832	11,926	95,408
Snapper, other	29	87	105	315	49	147	53	159	2,845	8,535
Spadefish	--	--	10	5	--	--	--	--	24	12
Spanish mackerel	--	--	15	26	--	--	--	--	83	145
Spot	--	--	10	5	--	--	--	--	10	5
Tenpounder	--	--	43	43	--	--	--	--	43	43
Triggerfish	--	--	--	--	138	345	--	--	403	1,007
Yellowtail	--	--	--	--	--	--	--	--	23	6
Unclassified fish	--	--	--	--	8	2	--	--	8	2
Total	6,462	29,424	6,068	25,953	3,447	14,886	4,944	39,594	39,242	192,164

Table 30.--Estimated sport fishery catch, Cape Canaveral Area; Southern Section, Port Canaveral outside; 1963 spring, summer, and fall totals in numbers of fish and weight in pounds, by species

Species	Spring		Summer		Fall		Total	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Amberjack	198	2,970	601	9,015	104	1,552	903	13,537
Barracuda	--	--	69	552	--	--	69	552
Black margate	--	--	102	102	--	--	102	102
Bluefish	122	183	39	58	--	--	161	241
Cabio	--	--	145	1,305	108	972	253	2,277
Catfish	--	--	10	10	--	--	10	10
Croaker	82	41	385	192	--	--	467	233
Dolphin	26	208	433	3,464	153	1,224	612	4,896
Drum, black	--	--	15	206	--	--	15	206
Flounders	--	--	29	35	8	9	37	44
Groupers	275	2,750	226	2,260	382	3,825	883	8,835
Grunts	86	43	--	--	412	206	498	249
Jack, crevalle	66	98	37	55	80	118	183	271
King mackerel	637	5,096	1,701	13,608	357	2,856	2,695	21,560
King whiting	53	40	10	7	--	--	63	47
Little tuna	136	884	689	4,478	222	1,442	1,047	6,804
Pigfish	15	4	--	--	--	--	15	4
Pinfish	--	--	376	94	--	--	376	94
Porgies	86	172	--	--	--	--	86	172
Sea bass, black	2,844	2,844	6,019	6,019	2,074	2,074	10,937	10,937
Sea bass, rock	--	--	61	15	--	--	61	15
Sea trout, spotted	53	93	10	17	--	--	63	110
Sea trout, other	--	--	49	49	--	--	49	49
Sharks	41	143	58	203	12	42	111	388
Sheepshead	13	16	126	157	--	--	139	173
Snapper, red	1,041	8,328	3,298	26,384	8,302	66,420	12,641	101,132
Snapper, other	383	1,149	474	1,422	153	459	1,010	3,030
Spadefish	--	--	24	12	--	--	24	12
Spanish mackerel	--	--	83	145	--	--	83	145
Spot	--	--	10	5	--	--	10	5
Tenpounder	--	--	43	43	--	--	43	43
Triggerfish	54	135	--	--	207	518	261	653
Unclassified fish	--	--	--	--	12	3	12	3
Total	6,211	25,197	15,122	69,912	12,586	81,720	33,919	176,829

Table 31.--Estimated sport fishery catch, Cape Canaveral Area, Southern Section, boat fishery (fish camp rentals combined); March-June 1963, and 1963 spring total, in numbers of fish and weight in pounds, by species, by month

Species	March		April		May		June		Total		Spring	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Bluefish	--	--	--	--	278	417	--	--	278	417	278	417
Catfish	54	54	3,709	3,709	2,470	2,470	13,345	13,345	19,578	19,578	6,233	6,233
Croaker	--	--	--	--	800	400	--	--	800	400	800	400
Drum, red	--	--	3,709	7,418	--	--	--	--	3,709	7,418	3,709	7,418
Jack, crevalle	54	81	--	--	--	--	--	--	54	81	54	81
King whiting	54	40	2,828	2,121	--	--	262	196	3,144	2,357	2,882	2,161
Pigfish	--	--	--	--	--	--	112	28	112	28	--	--
Puffers	5,039	2,520	1,994	997	--	--	10,121	5,060	17,154	8,577	7,033	3,517
Rays	54	54	--	--	--	--	--	--	54	54	54	54
Sea trout, spotted	9,555	16,721	6,537	11,440	9,359	16,378	15,594	27,289	41,045	71,828	25,451	44,539
Sheepshead	702	878	--	--	--	--	13,495	16,869	14,197	17,747	702	878
Snapper, mangrove	--	--	278	139	--	--	--	--	278	139	278	139
Tenpounder	--	--	--	--	--	--	262	262	262	262	--	--
Yellowtail	--	--	--	--	--	--	262	66	262	66	--	--
Unclassified fish	--	--	13,955	3,489	--	--	--	--	13,955	3,489	13,955	3,489
Total	15,512	20,348	33,010	29,313	12,907	19,665	53,453	63,115	114,882	132,441	61,429	69,326

DESCRIPTION OF NORTHERN SECTION AND ITS FISHERY

The Northern Section, located in the southern half of Volusia County and the northern half of Brevard County and extending from Titusville north to the north side of Ponce de Leon Inlet, includes: Indian River north of Titusville and west of the Haulover Canal; Indian River Lagoon (Mosquito Lagoon); Indian River North, island section which extends from Indian River Lagoon north to Ponce de Leon Inlet; and Ponce de Leon Inlet and the ocean beach south of the inlet. Figure 12 and table 22 show locations of facilities in the Northern Section.

Bank Fishery

The Indian River north of Titusville has many access points for waders and bank fishermen, which made sampling difficult. The bottom at the sites where bank fishing was sampled was primarily mud or sand and mud. We observed wading fishermen only at Turtle Mound I Fish Camp. Fish camp operators reported that fishermen wade along the shoreline of north Indian River in the summer, fishing for small school trout, but we never observed this. Bank fishermen use both dead cut mullet and shrimp while fishing on the bottom and live shrimp and fish when using floats.

The category "bank fishery" consists of two groups of fishermen: (1) Those fishing at Titusville Causeway, launch, ramp, bridge, and pier (the Titusville Bridge and pier were placed in this category rather than in "bridge fishery" because of species composition of the catch)--the bridge and pier contributed the majority of fishermen and most of catch and (2) those fishing at J and J Fish Camp, Bairs Cove Fish Camp, Allenhurst Fish Camp and Haulover Canal, Pirtles Fish Camp, Beacon 42 Fish Camp, Correct Craft Marina Fish Camp, Titusville Basin, Indian Mound Fish Camp, Bisset Bay Fish Camp, Dicks Fish Camp, Turtle Mound I Fish Camp, Turtle Mound II Fish Camp, Joes Fish Camp, Dicks Fish Camp to South Causeway Bridge, New Smyrna Beach launch site, Preyers launch site, and New Smyrna Beach city docks.

Fishing on Titusville Bridge and pier was pursued less vigorously during the day than at night in the hot summer months. Spotted sea trout, shrimp, and crabs were generally sought by night fishermen. The catch of shrimp and crabs was much greater than that of fish some nights during the summer. No attempt was made to evaluate the catch of these crustaceans.

The bank fishery differed from most of the others in that almost all sizes and species of fish caught were saved for eating, including small pinfish and small sea bass.

Bridge Fishery

The "bridge fishery," in the Indian River North between Edgewater and Ponce de Leon Inlet, consisted of the people fishing from all bridges and piers and from the Edgewater city fishing and launch site. In New Smyrna Beach, we sampled at the North Causeway Bridge and pier, bridge on Quay Brenta, bridge at New Smyrna Beach city docks, Callalisa Creek Bridge, and the bridge at 5th Street. The city fishing and launch site at Edgewater was placed in this category rather than in the "bank fishery" because of species composition.

Bridge fishermen were: (1) Family groups, usually tourists; (2) single fishermen or couples, usually natives who fish the entire year regardless of weather; and (3) retired persons residing in area, who fish intensively during the fall, winter, and spring.

The bridge fishermen usually fish with dead shrimp or cut mullet bait on the bottom, but sometimes use floats and live shrimp or fish. This fishery has a specialized, highly skilled group of fishermen who fish for nothing but sheepshead using fiddler crabs as bait. During the summer, fishing from 6 to 10 p.m. is as intense as during the day. However, the bridge fishery at night in this section is not so great as that in the Southern Section.

During spring and summer, a small dip net fishery for shrimp occurs at night off the Edgewater city fishing site, South Causeway Bridge, Callalisa Creek Bridge, and North Causeway pier. We were unable to estimate the catch of shrimp. Also, crabs are taken in small quantities during daylight hours in the summer by fishermen using traps or handlines at Callalisa Creek Bridge, North Causeway pier, and South Causeway Bridge. Again, we were unable to gather sufficient information to estimate the volume of this fishery.

Surf Fishery

Surf fishing is primarily in two areas: From the Coast Guard Station inside Ponce de Leon Inlet to the inlet mouth and from Bethune Beach to a point approximately 4 miles south. Dead shrimp and cut mullet are the most common baits. Many fishermen interviewed stated that the best fishing occurs in deep holes in the surf. The fishes generally sought are red drum, black drum, bluefish, and king whiting. During hot summer days fishing is confined to the early morning or late afternoon.

Boat Fishery

The boat fishery in the Northern Section is comprised of two segments: (1) Rental boats and (2) private boats.

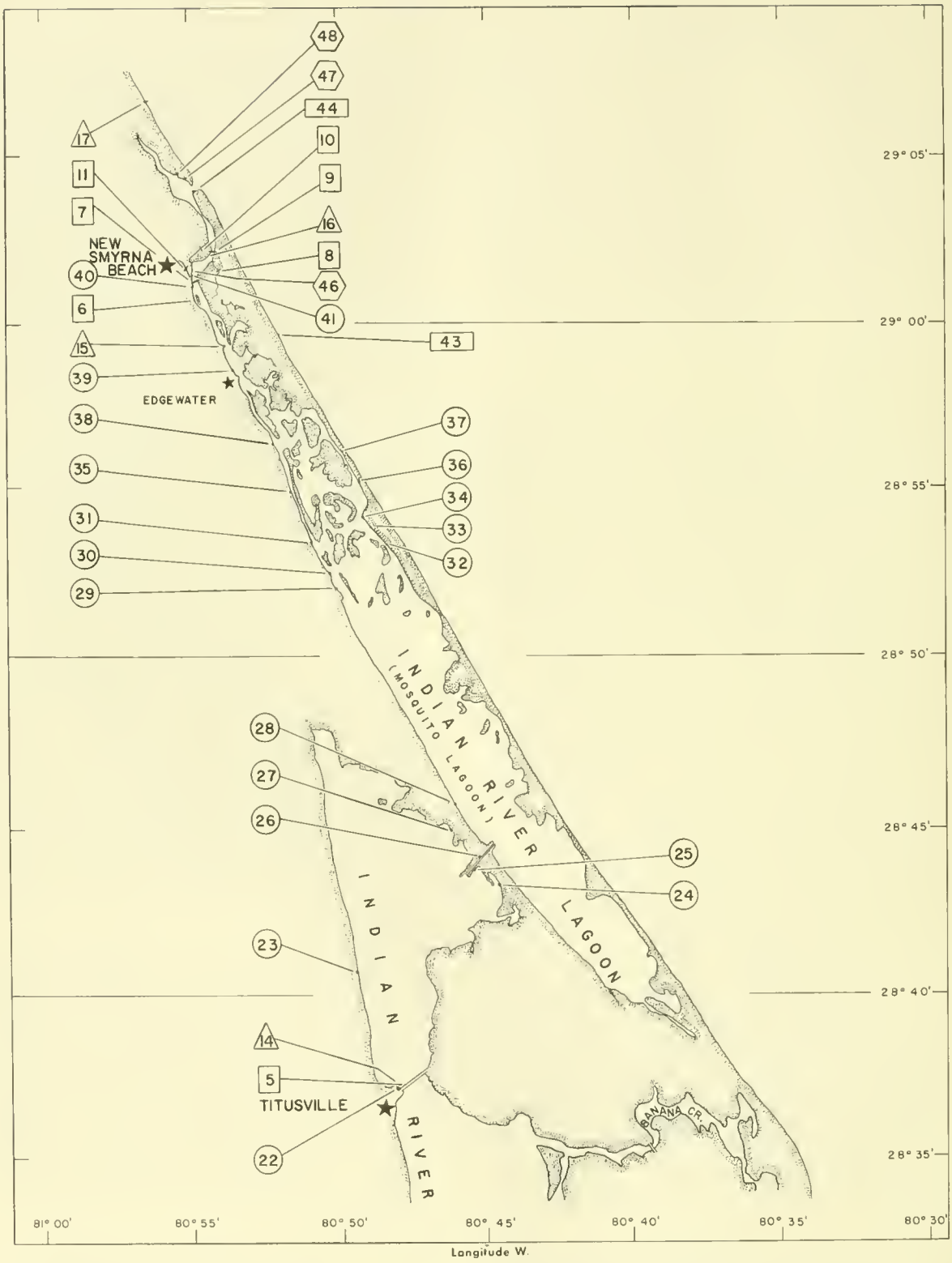


Figure 12.--Cape Canaveral Area, Northern Section. Symbols and enclosed numerals refer to locations where sport fishery catch was sampled in 1963 (see table 22 for list of locations by number and symbol).

(1) Rental boats.--During our survey, 21 fish camps located in the Northern Section rented fishing boats (table 22 and fig. 12). The 21 camps have 281 boats for rent; the 4 major camps average 39 boats and the 17 minor camps average 8 or 9 boats. Six of these camps are located on land acquired for Project Nova, and two have already terminated business. Unfortunately for the fishery, two of the six camps being closed are considered among the best and are in good locations.

Data on the number of boats rented by month during a 2-year period were made available by a camp operator who owned one fish camp and leased another; 1962 data are for a newly opened camp.

Month	1961 Fish Camp I, Boats rented	1962 Fish Camp II, Boats rented
	No.	No.
January	171	71
February	179	80
March	89	70
April	86	50
May	69	39
June	73	45
July	96	31
August	68	37
September	60	25
October	71	40
November	84	37
December	64	68
Total	1,110	593

The number of boats rented by months by year, compiled by season are:

Season	1961 Fish Camp I, Boats rented		1962 Fish Camp II, Boats rented	
	No.	Pct.	No.	Pct.
Winter	414	37.3	219	36.9
Spring	244	22.0	159	26.8
Summer	237	21.4	113	19.0
Fall	215	19.4	102	17.2
Total	1,110	100.0	593	99.9

The data show a close correlation by season between the two camps in the percentages of the number of boats rented. The winter season had considerably higher numbers of boat rentals than did other seasons.

Boat fishermen usually rent boats at a camp near the area where fish have been reported to be biting. Many fishermen are from Orlando and come to the coast when radio or television reports good fishing. Usual baits are live shrimp or pigfish or dead cut shrimp. The species most sought are spotted sea trout, red drum, black drum, and sheepshead, taken drifting, trolling, casting with live bait or lures, and bottom fishing with live or dead bait. In February, the catch on lures approached that using live shrimp. In the winter and spring the spotted sea trout and other species usually congregate in deep holes in the river, whereas at other times they move into the shallow, open flats.

(2) Private boats.--In the Northern Section the places where a private boat can be launched are so numerous that it was impossible to sample this fishery adequately. There are launching sites at most fishing camps, on the Titusville Causeway, on Riverside Drive from Dicks Fish Camp to South Causeway Bridge, at Callalisa Creek Bridge, near the Coast Guard Station, at New Smyrna Beach launch site, at Preyers on the North Causeway, and at New Smyrna Beach city docks.

Private boat fishermen fish the same general areas and seasons as those using rental boats.

METHODS FOR ESTIMATING SPORT FISHERY CATCH

Monthly totals of numbers of fishermen, hours fished, and catch are estimates calculated from the data secured in the field survey. Seasonal values are summations of monthly values.

The average weight per fish for each species (table 63) is an average estimated by the several biologists who conducted the field survey. Except for weights for the black drum and the grouper, whose average weights varied considerably between the two sections, the weights in table 63 apply to fish in both sections. Separate monthly estimates of numbers and weights were determined for sea catfish, gafftopsail catfish, gray sea trout, and silver sea trout. These data were then combined under "catfish" and "sea trout, other," respectively.

The weights in table 58, estimated catch by party and charter boats for year 1962 for entire Cape Canaveral Area, are based upon estimates for individual fish in photographs examined, rather than on average weights given in table 63.

Table 32.--Estimated sport fishery catch, Cape Canaveral Area; Northern Section, bank fishery; February-October 1963, numbers of fish and weight in pounds, by species, by month

Species	February		March		April		May		June	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Bluefish	--	--	16,956	25,434	90	144	--	--	--	--
Catfish	1,542	1,542	843	843	1,221	1,221	1,728	1,485	1,527	1,527
Croaker	--	--	--	--	--	--	234	108	--	--
Drum, black	--	--	4,992	7,488	1,311	1,974	186	279	141	210
Drum, red	--	--	--	--	--	--	--	--	--	--
Groupers	--	--	--	--	--	--	--	--	54	27
Grunts	--	--	--	--	--	--	--	--	--	--
Jack, crevalle	--	--	843	1,263	--	--	186	279	--	--
King whiting	--	--	360	270	612	459	1,356	1,017	285	204
Pigfish	--	--	--	--	--	--	--	--	--	--
Pinfish	--	--	1,422	360	2,016	498	--	--	4,071	1,023
Pompano	--	--	--	--	--	--	--	--	--	--
Puffers	3,084	1,542	11,007	5,502	23,940	11,970	13,860	6,930	11,892	5,946
Rays	--	--	180	180	--	--	186	186	--	--
Sea bass, black	--	--	--	--	--	--	--	--	--	--
Sea trout, spotted	4,863	8,505	6,357	11,130	11,688	20,454	4,812	8,421	2,136	3,741
Sea trout, other	--	--	--	--	--	--	--	--	141	141
Sharks	--	--	--	--	--	--	--	--	--	--
Sheepshead	--	--	180	216	90	108	234	288	1,089	1,362
Snapper, mangrove	--	--	--	--	--	--	--	--	--	--
Snapper, other	--	--	--	--	--	--	--	--	--	--
Spadefish	--	--	--	--	--	--	--	--	--	--
Spot	--	--	--	--	864	432	--	--	87	42
Tenpounder	--	--	--	--	--	--	186	186	87	87
Yellowtail	10,491	2,622	--	--	3,402	846	--	--	513	138
Unclassified fish	--	--	--	--	90	18	720	180	54	12
Total	19,980	14,211	43,140	52,686	45,324	38,124	23,688	19,359	22,077	14,460

Species	July		August		September		October		Total	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Bluefish	18	27	--	--	--	--	--	--	17,064	25,605
Catfish	2,154	2,136	2,802	2,739	1,473	1,473	1,716	1,716	15,006	14,682
Croaker	1,899	948	174	78	2,196	1,098	--	--	4,503	2,232
Drum, black	186	279	63	93	--	--	87	129	6,966	10,452
Drum, red	90	180	--	--	384	768	816	1,632	1,290	2,580
Groupers	36	18	162	72	--	--	--	--	252	117
Grunts	69	33	420	210	--	--	237	117	726	360
Jack, crevalle	198	297	189	282	186	279	--	--	1,602	2,400
King whiting	1,344	1,002	741	561	1,536	1,155	171	129	6,405	4,797
Pigfish	1,326	336	1,407	348	258	69	--	--	2,991	753
Pinfish	3,507	885	8,544	2,127	2,301	570	--	--	21,861	5,463
Pompano	--	--	90	36	--	--	--	--	90	36
Puffers	3,960	1,980	2,715	1,356	3,216	1,608	8,202	4,110	81,876	40,944
Rays	69	69	63	63	351	351	--	--	849	849
Sea bass, black	198	198	--	--	--	--	--	--	198	198
Sea trout, spotted	1,326	2,319	1,248	2,187	1,281	2,247	2,850	4,986	36,561	63,990
Sea trout, other	36	36	--	--	--	--	--	--	177	177
Sharks	33	114	21	72	--	--	--	--	54	186
Sheepshead	768	960	555	684	114	141	321	402	3,351	4,161
Snapper, mangrove	177	87	--	--	312	165	--	--	489	252
Snapper, other	36	108	--	--	--	--	--	--	36	108
Spadefish	264	132	--	--	--	--	--	--	264	132
Spot	429	213	2,202	1,092	3,303	1,659	--	--	6,885	3,438
Tenpounder	33	33	294	294	--	--	--	--	600	600
Yellowtail	1,020	255	1,284	321	957	240	2,778	693	20,445	5,115
Unclassified fish	990	243	342	81	423	111	--	--	2,619	645
Total	20,166	12,888	23,316	12,696	18,291	11,934	17,178	13,914	233,160	190,272

Table 33.--Estimated sport fishery catch, Cape Canaveral Area; Northern Section, bank fishery; 1963 spring, summer, and fall totals in numbers of fish and weight in pounds, by species

Species	Spring		Summer		Fall		Total	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Bluefish	17,046	25,578	18	27	--	--	17,064	25,605
Catfish	3,792	3,549	6,483	6,402	4,773	4,773	15,048	14,724
Croaker	234	108	2,073	1,026	3,294	1,638	5,601	2,772
Drum, black	6,489	9,741	390	582	129	192	7,008	10,515
Drum, red	--	--	90	180	1,809	3,618	1,899	3,798
Groupers	--	--	252	117	--	--	252	117
Grunts	--	--	489	243	357	177	846	420
Jack, crevalle	1,029	1,542	387	579	279	417	1,695	2,538
King whiting	2,328	1,746	2,370	1,767	2,553	1,920	7,251	5,433
Pigfish	--	--	2,733	684	396	111	3,129	795
Pinfish	3,438	858	16,122	4,035	3,441	846	23,001	5,739
Pompano	--	--	90	36	--	--	90	36
Puffers	48,807	24,402	18,567	9,282	17,136	8,577	84,510	42,261
Rays	366	366	132	132	537	537	1,035	1,035
Sea bass, black	--	--	198	198	--	--	198	198
Sea trout, spotted	22,857	40,005	4,710	8,247	6,189	10,827	33,756	59,079
Sea trout, other	--	--	177	177	--	--	177	177
Sharks	--	--	54	186	--	--	54	186
Sheepshead	504	612	2,412	3,006	654	807	3,570	4,425
Snapper, mangrove	--	--	177	87	477	249	654	336
Snapper, other	--	--	36	108	--	--	36	108
Spadefish	--	--	264	132	--	--	264	132
Spot	864	432	2,718	1,347	4,965	2,490	8,547	4,269
Tenpounder	186	186	414	414	--	--	600	600
Yellowtail	3,402	846	2,817	714	5,601	1,401	11,820	2,961
Unclassified fish	810	198	1,386	336	645	177	2,841	711
Total	112,152	110,169	65,559	40,044	53,235	38,757	230,946	188,970

Table 34.--Estimated sport fishery catch, Cape Canaveral Area; Northern Section, bridges combined; February-October 1963, numbers of fish and weight in pounds, by species, by month

Species	February		March		April		May		June	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Barracuda	--	--	--	--	--	--	--	--	--	--
Bluefish	320	480	27,016	40,528	2,496	3,744	--	--	--	--
Catfish	320	320	4,240	4,240	--	--	792	752	2,088	2,088
Croaker	--	--	--	--	624	312	160	80	336	168
Cutlassfish	--	--	--	--	--	--	--	--	--	--
Drum, black	320	480	--	--	--	--	--	--	--	--
Drum, red	--	--	--	--	624	1,248	--	--	--	--
Eels	--	--	--	--	--	--	--	--	--	--
Flounders	--	--	--	--	--	--	--	--	--	--
Groupers	--	--	--	--	624	312	--	--	--	--
Grunts	--	--	272	136	--	--	400	200	--	--
Jack, crevalle	--	--	1,032	1,552	624	936	160	240	112	168
King mackerel	--	--	272	2,176	--	--	--	--	--	--
King whiting	--	--	1,632	1,224	624	464	1,248	936	1,232	928
Mullet	--	--	--	--	--	--	--	--	--	--
Pigfish	320	80	272	64	1,248	312	1,720	432	232	56
Pinfish	8,432	2,112	11,144	2,784	16,216	4,056	4,392	1,096	6,808	1,704
Pompano	--	--	--	--	--	--	312	160	--	--
Puffers	--	--	704	352	--	--	160	80	--	--
Rays	--	--	160	160	--	--	72	72	56	56
Sea bass, black	648	648	--	--	1,248	1,248	472	472	56	56
Sea bass, rock	320	80	872	216	4,376	1,096	72	16	232	56
Sea robin	--	--	--	--	--	--	72	16	56	16
Sea trout, spotted	648	1,136	1,304	2,280	--	--	232	408	--	--
Sea trout, other	--	--	--	--	--	--	--	--	--	--
Sharks	--	--	--	--	--	--	72	256	--	--
Sheepshead	2,264	2,832	4,128	5,160	3,120	3,904	3,448	4,312	448	560
Snapper, mangrove	--	--	592	296	--	--	--	--	56	32
Spadefish	--	--	160	80	3,752	1,872	312	160	232	112
Spot	--	--	272	136	--	--	632	320	--	--
Tenpounder	--	--	--	--	--	--	--	--	--	--
Yellowtail	648	160	2,176	544	--	--	--	--	--	--
Unclassified fish	320	80	--	--	--	--	3,128	784	960	240
Total	14,560	8,408	56,248	61,928	35,576	19,504	17,856	10,792	12,904	6,240

Species	July		August		September		October		Total	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Barracuda	--	--	--	--	--	--	152	1,216	152	1,216
Bluefish	24	32	320	480	128	192	--	--	30,304	45,456
Catfish	2,448	2,432	1,480	1,472	1,224	1,216	--	--	12,592	12,520
Croaker	--	--	576	288	328	160	--	--	2,024	1,008
Cutlassfish	--	--	88	112	480	600	--	--	568	712
Drum, black	176	264	88	128	40	64	--	--	624	936
Drum, red	112	224	200	400	288	576	--	--	1,224	2,448
Eels	64	128	32	64	80	160	--	--	176	352
Flounders	64	80	--	--	208	256	--	--	272	336
Groupers	88	48	56	32	64	32	152	80	984	504
Grunts	136	64	288	144	1,056	528	1,224	608	3,376	1,680
Jack, crevalle	152	224	640	960	272	408	--	--	2,992	4,488
King mackerel	--	--	--	--	--	--	--	--	272	2,176
King whiting	1,752	1,312	1,304	976	1,016	760	312	232	9,120	6,832
Mullet	48	48	--	--	1,496	1,496	--	--	1,544	1,544
Pigfish	1,352	336	2,664	664	5,408	1,352	3,776	944	16,992	4,240
Pinfish	5,160	1,288	4,776	1,192	1,904	480	8,016	2,000	66,848	16,712
Pompano	--	--	56	32	24	16	--	--	392	208
Puffers	112	56	232	112	536	272	152	80	1,896	952
Rays	88	88	112	112	288	288	--	--	776	776
Sea bass, black	352	352	32	32	24	24	--	--	2,832	2,832
Sea bass, rock	64	16	32	8	40	8	152	40	6,160	1,536
Sea robin	64	16	56	16	--	--	--	--	248	64
Sea trout, spotted	624	1,088	928	1,624	520	912	--	--	4,256	7,448
Sea trout, other	--	--	--	--	24	24	--	--	24	24
Sharks	48	168	32	112	--	--	--	--	152	536
Sheepshead	936	1,168	1,680	2,096	1,016	1,272	600	752	17,640	22,056
Snapper, mangrove	176	88	376	192	312	160	--	--	1,512	768
Spadefish	376	192	1,160	576	496	248	152	80	6,640	3,320
Spot	2,152	1,072	8,168	4,080	2,776	1,392	752	376	14,752	7,376
Tenpounder	48	48	200	200	312	312	--	--	560	560
Yellowtail	352	88	32	8	40	8	--	--	3,248	808
Unclassified fish	1,400	352	552	136	272	64	10,440	2,608	17,072	4,264
Total	18,368	11,272	26,160	16,248	20,672	13,280	25,880	9,016	228,224	156,688

Table 35.--Estimated sport fishery catch, Cape Canaveral Area; Northern Section, bridges combined; 1963 spring, summer, and fall totals in numbers of fish and weight in pounds, by species

Species	Spring		Summer		Fall		Total	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Barracuda	--	--	--	--	224	1,824	224	1,824
Bluefish	29,512	44,272	344	512	192	288	30,048	45,072
Catfish	5,032	4,992	6,016	5,992	1,840	1,824	12,888	12,808
Croaker	784	392	912	456	496	240	2,192	1,088
Cutlassfish	--	--	88	112	720	896	808	1,008
Drum, black	--	--	264	392	64	96	328	488
Drum, red	624	1,248	312	624	432	864	1,368	2,736
Eels	--	--	96	192	120	240	216	432
Flounders	--	--	64	80	312	384	376	464
Groupers	624	312	144	80	320	168	1,088	560
Grunts	672	336	424	208	3,424	1,704	4,520	2,248
Jack, crevalle	1,816	2,728	904	1,352	408	608	3,128	4,688
King mackerel	272	2,176	--	--	--	--	272	2,176
King whiting	3,504	2,624	4,288	3,216	1,992	1,488	9,784	7,328
Mullet	--	--	48	48	2,240	2,240	2,288	2,288
Pigfish	3,240	808	4,248	1,056	13,776	3,440	21,264	5,304
Pinfish	31,752	7,936	16,744	4,184	14,880	3,720	63,376	15,840
Pompano	312	160	56	32	32	24	400	216
Puffers	864	432	344	168	1,032	528	2,240	1,128
Rays	232	232	256	256	432	432	920	920
Sea bass, black	1,720	1,720	440	440	32	32	2,192	2,192
Sea bass, rock	5,320	1,328	328	80	288	72	5,936	1,480
Sea robin	72	16	176	48	--	--	248	64
Sea trout, spotted	1,536	2,688	1,552	2,712	784	1,368	3,872	6,768
Sea trout, other	--	--	--	--	32	32	32	32
Sharks	72	256	80	280	--	--	152	536
Sheepshead	10,696	13,376	3,064	3,824	2,424	3,040	16,184	20,240
Snapper, mangrove	592	296	608	312	464	240	1,664	848
Spadefish	4,224	2,112	1,768	880	976	496	6,968	3,488
Spot	904	456	10,320	5,152	5,296	2,656	16,520	8,264
Tenpounder	--	--	248	248	464	464	712	712
Yellowtail	2,176	544	384	96	64	16	2,624	656
Unclassified fish	3,128	784	2,912	728	16,064	4,008	22,104	5,520
Total	109,680	92,224	57,432	33,760	69,824	33,432	236,936	159,416

Table 36.--Estimated sport fishery catch, Cape Canaveral Area; Northern Section, surf areas combined; February-October 1963, numbers of fish and weight in pounds, by species, by month

Species	February		March		April		May		June	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Bluefish	--	--	4,586	6,880	1,028	1,542	--	--	--	--
Catfish	--	--	6,572	6,572	568	450	3,418	3,418	846	846
Croaker	--	--	--	--	--	--	--	--	164	82
Drum, black	--	--	2,436	3,654	4,508	6,762	84	126	--	--
Drum, red	--	--	--	--	96	192	--	--	--	--
Flounders	--	--	--	--	--	--	--	--	32	40
Grunts	--	--	--	--	--	--	--	--	--	--
Jack, crevalle	--	--	40	60	96	144	--	--	--	--
King whiting	854	640	5,446	4,084	2,624	1,968	4,168	3,126	228	172
Pigfish	--	--	--	--	--	--	--	--	--	--
Pinfisb	--	--	--	--	374	94	750	188	164	40
Pompano	--	--	40	20	96	48	84	42	--	--
Puffers	--	--	--	--	96	48	--	--	--	--
Rays	--	--	--	--	96	96	--	--	--	--
Sea trout, spotted	--	--	102	178	--	--	--	--	--	--
Sharks	1,344	4,704	102	356	--	--	--	--	32	112
Sheepshead	--	--	--	--	96	120	84	104	98	122
Snapper, mangrove	--	--	--	--	--	--	--	--	--	--
Spadefish	--	--	--	--	--	--	--	--	--	--
Spanish mackerel	--	--	--	--	--	--	84	148	--	--
Spot	--	--	--	--	--	--	166	84	98	48
Tenpounder	--	--	--	--	--	--	--	--	--	--
Yellowtail	--	--	--	--	96	24	--	--	--	--
Unclassified fish	--	--	--	--	--	--	166	42	--	--
Total	2,198	5,344	19,324	21,804	9,774	11,488	9,004	7,278	1,662	1,462

Species	July		August		September		October		Total	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Bluefisb	180	270	86	128	102	152	154	232	6,136	9,204
Catfish	3,668	3,662	594	594	910	870	--	--	16,576	16,412
Croaker	266	132	260	130	--	--	--	--	690	344
Drum, black	158	236	260	390	54	80	780	1,170	8,280	12,418
Drum, red	--	--	172	344	--	--	--	--	268	536
Flounders	--	--	86	108	54	68	--	--	172	216
Grunts	46	24	--	--	--	--	--	--	46	24
Jack, crevalle	--	--	86	128	156	234	--	--	378	566
King whiting	1,944	1,458	1,968	1,476	1,198	898	2,174	1,630	20,604	15,452
Pigfish	--	--	--	--	102	26	154	38	256	64
Pinfish	68	16	--	--	24	6	1,242	310	2,622	654
Pompano	--	--	172	86	78	40	--	--	470	236
Puffers	--	--	--	--	--	--	--	--	96	48
Rays	22	22	--	--	--	--	--	--	118	118
Sea trout, spotted	--	--	--	--	--	--	--	--	102	178
Sharks	22	76	--	--	--	--	--	--	1,500	5,248
Sheepshead	248	310	172	216	102	128	462	578	1,262	1,578
Snapper, mangrove	22	12	--	--	24	12	--	--	46	24
Spadefish	--	--	260	130	78	40	--	--	338	170
Spanish mackerel	--	--	--	--	--	--	--	--	84	148
Spot	--	--	--	--	--	--	308	154	572	286
Tenpounder	--	--	86	86	--	--	--	--	86	86
Yellowtail	46	12	--	--	102	26	--	--	244	62
Unclasssified fish	--	--	86	22	--	--	1,396	348	1,648	412
Total	6,690	6,230	4,288	3,838	2,984	2,580	6,670	4,460	62,594	64,484

Table 37.--Estimated sport fisbery catcb, Cape Canaveral Area; Northern Sectioa, surf areas combined; 1963 spring, summer, and fall totals in oumbers of fish aad weight in pounds, by species

Species	Spring		Summer		Fall		Total	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Bluefish	5,614	8,422	266	398	384	576	6,264	9,396
Catfish	10,558	10,440	5,108	5,102	1,364	1,304	17,030	16,846
Croaker	--	--	690	344	--	--	690	344
Drum, black	7,028	10,542	418	626	1,252	1,876	8,698	13,044
Drum, red	96	192	172	344	--	--	268	536
Flounders	--	--	118	148	80	102	198	250
Grunts	--	--	46	24	--	--	46	24
Jack, crevalle	136	204	86	128	234	352	456	684
King whiting	12,238	9,178	4,140	3,106	5,058	3,792	21,436	16,076
Pigfish	--	--	--	--	384	96	384	96
Pinfisb	1,124	282	232	56	1,900	474	3,256	812
Pompano	220	110	172	86	116	60	508	256
Puffers	96	48	--	--	--	--	96	48
Rays	96	96	22	22	--	--	118	118
Sea trout, spotted	102	178	--	--	--	--	102	178
Sharks	102	356	54	188	--	--	156	544
Sheepshead	180	224	518	648	846	1,060	1,544	1,932
Snapper, mangrove	--	--	22	12	36	18	58	30
Spadefish	--	--	260	130	116	60	376	190
Spaoish mackerel	84	148	--	--	--	--	84	148
Spot	166	84	98	48	462	232	726	364
Teapounder	--	--	86	86	--	--	86	86
Yellowtail	96	24	46	12	152	40	294	76
Unclassified fish	166	42	86	22	2,094	522	2,346	586
Total	38,102	40,570	12,640	11,530	14,478	10,564	65,220	62,664

Table 38.--Estimated sport fishery catch, Cape Canaveral Area; Northern Section, boat fishery (private and rental combined); February-October 1963, numbers of fish and weight in pounds, by species, by month

Species	February		March		April		May		June	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Bluefish	--	--	943	1,414	383	574	--	--	--	--
Catfish	--	--	574	554	--	--	4,222	4,170	54	54
Croaker	--	--	--	--	--	--	--	--	--	--
Drum, black	488	732	943	1,414	851	1,276	412	618	54	81
Drum, red	1,251	2,502	492	984	255	510	--	--	461	922
Flounders	--	--	--	--	128	160	--	--	--	--
Groupers	--	--	--	--	--	--	--	--	--	--
Grunts	--	--	--	--	--	--	--	--	--	--
Jack, crevalle	--	--	328	492	--	--	309	464	--	--
King whiting	547	410	861	646	978	734	790	592	54	40
Mullet	--	--	--	--	--	--	--	--	--	--
Pigfish	137	34	--	--	--	--	790	198	--	--
Pinfish	137	34	697	174	510	128	3,021	755	271	68
Pompano	--	--	--	--	--	--	--	--	--	--
Puffers	313	156	246	123	--	--	--	--	--	--
Rays	--	--	82	82	--	--	206	206	--	--
Sea bass, black	--	--	--	--	--	--	--	--	--	--
Sea bass, rock	--	--	--	--	--	--	--	--	--	--
Sea trout, spotted	12,681	22,192	20,785	36,374	30,747	53,807	26,674	46,680	16,037	28,065
Sharks	--	--	--	--	--	--	--	--	--	--
Sheepshead	3,615	4,519	3,608	4,510	4,423	5,529	2,403	3,004	461	576
Snapper, mangrove	20	10	--	--	--	--	--	--	--	--
Spot	--	--	410	205	--	--	--	--	--	--
Tenpounder	--	--	--	--	--	--	893	893	--	--
Yellowtail	215	54	--	--	--	--	--	--	--	--
Unclassified fish	--	--	--	--	--	--	1,202	300	--	--
Total	19,404	30,643	29,969	46,972	38,275	62,718	40,922	57,880	17,392	29,806

Species	July		August		September		October		Total	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Bluefish	58	87	--	--	--	--	--	--	1,384	2,075
Catfish	1,670	1,670	659	650	877	877	--	--	8,056	7,975
Croaker	518	259	146	73	155	78	211	106	1,030	516
Drum, black	518	777	403	604	1,032	1,548	6,074	9,111	10,775	16,161
Drum, red	288	576	329	658	722	1,444	8,927	17,854	12,725	25,450
Flounders	173	216	--	--	--	--	--	--	301	376
Groupers	115	58	--	--	52	26	--	--	167	84
Grunts	--	--	--	--	2,271	1,136	--	--	2,271	1,136
Jack, crevalle	633	950	183	274	206	309	211	316	1,870	2,805
King whiting	1,094	820	476	357	1,445	1,084	1,162	872	7,407	5,555
Mullet	--	--	73	73	--	--	--	--	73	73
Pigfish	403	101	293	73	361	90	3,275	819	5,259	1,315
Pinfish	2,764	691	293	73	4,128	1,032	33,753	8,438	45,574	11,393
Pompano	--	--	37	18	--	--	--	--	37	18
Puffers	115	58	329	164	52	26	2,800	1,400	3,855	1,927
Rays	--	--	--	--	52	52	--	--	340	340
Sea bass, black	58	58	37	37	--	--	--	--	95	95
Sea bass, rock	--	--	37	9	--	--	--	--	37	9
Sea trout, spotted	32,357	56,625	26,725	46,769	33,336	58,338	27,414	47,974	226,756	396,824
Sharks	173	606	--	--	--	--	--	--	173	606
Sheepshead	2,188	2,735	476	595	2,425	3,031	6,814	8,518	26,413	33,017
Snapper, mangrove	58	29	73	36	52	26	211	106	414	207
Spot	--	--	183	92	--	--	--	--	593	297
Tenpounder	330	330	183	183	--	--	1,637	1,637	2,943	2,943
Yellowtail	173	43	--	--	--	--	5,663	1,466	6,251	1,563
Unclassified fish	1,036	259	476	119	2,890	722	--	--	5,604	1,400
Total	44,622	66,848	31,411	50,657	50,056	69,819	98,352	98,617	370,403	514,160

Table 39.--Estimated sport fishery catch, Cape Canaveral Area; Northern Section, boat fishery (private and rental combined); 1963 spring, summer, and fall totals in numbers of fish and weight in pounds, by species

Species	Spring		Summer		Fall		Total	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Bluefish	1,326	1,988	58	87	--	--	1,384	2,075
Catfish	4,796	4,724	2,383	2,374	1,316	1,316	8,495	8,414
Croaker	--	--	664	332	549	276	1,213	608
Drum, black	2,206	3,308	975	1,462	10,659	15,988	13,840	20,758
Drum, red	747	1,494	1,078	2,156	14,474	28,947	16,299	32,597
Flounders	128	160	173	216	--	--	301	376
Groupers	--	--	115	58	78	39	193	97
Grunts	--	--	--	--	3,406	1,704	3,406	1,704
Jack, crevalle	637	956	816	1,224	626	938	2,079	3,118
King whiting	2,629	1,972	1,624	1,217	3,910	2,934	8,163	6,123
Mullet	--	--	73	73	--	--	73	73
Pigfish	790	198	696	174	5,454	1,364	6,940	1,736
Pinfish	4,228	1,057	3,328	832	56,822	14,205	64,378	16,094
Pompano	--	--	37	18	--	--	37	18
Puffers	246	123	444	222	4,278	2,139	4,968	2,484
Rays	288	288	--	--	78	78	366	366
Sea bass, black	--	--	95	95	--	--	95	95
Sea bass, rock	--	--	37	9	--	--	37	9
Sea trout, spotted	78,206	136,861	75,119	131,459	91,125	159,468	244,450	427,788
Sharks	--	--	173	606	--	--	173	606
Sheepshead	10,434	13,043	3,125	3,906	13,858	17,324	27,417	34,273
Snapper, mangrove	--	--	131	65	394	198	525	263
Spot	410	205	183	92	--	--	593	297
Tenpounder	893	893	413	413	2,456	2,456	3,762	3,762
Yellowtail	--	--	173	43	8,794	2,199	8,967	2,242
Unclassified fish	1,202	300	1,512	378	4,335	1,083	7,049	1,761
Total	109,166	167,570	93,425	147,511	222,612	252,656	425,203	567,737

ESTIMATE OF SPORT FISHERY CATCH

Estimates of catch (numbers and weight) have been assembled by section, by facility, by month, by season, by species, and by various combinations thereof to present them in the most usable form.

These detailed presentations will not be discussed individually, but rather our discussions will concern the Cape Canaveral Area as a whole.

Detailed data for the Southern Section appear in tables 23-31, and those for the Northern Section appear in tables 32-39.

In tables 40-48 are presented monthly summaries of catch by species (in numbers and weight), organized by facility, by section, and by sections combined. From these monthly summaries, it is evident that nine species represent the bulk of the catch, in numbers of fish. These are, in order of importance, spotted sea trout, pinfish, puffers, sea trout (other), catfish, king whiting, sheepshead, bluefish, and croaker.

Seasonal summaries of catch (numbers and weight) by species, organized by facility, by section, and by sections combined, are presented in tables 49-51. Spotted sea trout was taken in the greatest numbers, representing 20 percent of the catch for the three seasons for which we have data (spring, 25 percent; summer, 17 percent; and fall, 15 percent). Next is pinfish, with 13 percent of the total catch (spring, 8 percent; summer, 16 percent; and fall, 18 percent). Puffers follow, with 12 percent of the total catch (spring, 16 percent; summer, 8 percent; and fall, 11 percent). Sea trout other than spotted total 8 percent of the catch (spring, 7 percent; summer, 8 percent; and fall, 10 percent). Catfish also represent 8 percent of the total (spring, 9 percent; summer, 8 percent; and fall, 6 percent). King whiting total 6 percent (spring, 4 percent; summer, 8 percent; and fall, 5 percent). Sheepshead total 4 percent (4 percent for each season). Bluefish represent 3 percent (spring, 8 percent; and summer and fall, less than 1 percent). Croaker is last, with 2 percent of the total catch (spring, 1 percent; summer, 4 percent; and fall, 2 percent).

The catch in numbers for these nine species combined represents 82 percent of the 857,485 fish estimated for the spring, 74 percent of the 589,852 fish estimated for the summer, and 72 percent of the 785,676 fish estimated for the fall. Total numbers of fish for these nine species, all seasons combined, represent 76 percent of the total of 2,233,013 fish estimated for all species.

With reference to weights, ranking of the nine dominant species for the three seasons combined is as follows: Spotted sea trout, 33 percent of the total; sea trout other than spotted and catfish, 8 percent each; puffers, 6 percent; bluefish and sheepshead, 5 percent each; king whiting, 4 percent; pinfish, 3 percent; and croaker, 1 percent. The total weight for these nine species, all seasons combined, represents 73 percent of the total of 2,292,455 pounds estimated for all species.

Table 40.--Estimated sport fishery catch, Cape Canaveral Area; Northern Section only, February 1963, in numbers of fish and weight in pounds, by facility, by species

Species	Bank fishery		Bridges		Surf areas		Boat fishery		Total	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Bluefish	--	--	320	480	--	--	--	--	320	480
Catfish	1,542	1,542	320	320	--	--	--	--	1,862	1,862
Drum, black	--	--	320	480	--	--	488	732	808	1,212
Drum, red	--	--	--	--	--	--	1,251	2,502	1,251	2,502
King whiting	--	--	--	--	854	640	547	410	1,401	1,050
Pigfish	--	--	320	80	--	--	137	34	457	114
Pinfish	--	--	8,432	2,112	--	--	137	34	8,569	2,146
Puffers	3,084	1,542	--	--	--	--	313	156	3,397	1,698
Sea bass, black	--	--	648	648	--	--	--	--	648	648
Sea bass, rock	--	--	320	80	--	--	--	--	320	80
Sea trout, spotted	4,863	8,505	648	1,136	--	--	12,681	22,192	18,192	31,833
Sharks	--	--	--	--	1,344	4,704	--	--	1,344	4,704
Sheepshead	--	--	2,264	2,832	--	--	3,615	4,519	5,879	7,351
Snapper, mangrove	--	--	--	--	--	--	20	10	20	10
Yellowtail	10,491	2,622	648	160	--	--	215	54	11,354	2,836
Unclassified fish	--	--	320	80	--	--	--	--	320	80
Total	19,980	14,211	14,560	8,408	2,198	5,344	19,404	30,643	56,142	58,606

Table 41.--Estimated sport fishery catch, Cape Canaveral Area; March 1963, in numbers of fish and weight in pounds, by section, by facility, by species

Species	Southern Section											
	Bridges and causeways		Ocean piers		Port Canaveral inside		Port Canaveral outside		Boat fishery		Subtotal	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Amberjack	--	--	--	--	--	--	14	210	--	--	14	210
Black margate	--	--	1,931	1,931	--	--	--	--	--	--	1,931	1,931
Bluefish	395	592	275	412	8,286	12,429	--	--	--	--	8,956	13,433
Catfish	12,400	12,400	22,827	22,827	962	962	--	--	54	54	36,243	36,243
Croaker	--	--	--	--	389	194	--	--	--	--	389	194
Cutlassfish	--	--	--	--	407	509	--	--	--	--	407	509
Drum, black	1,576	21,670	--	--	201	2,764	--	--	--	--	1,777	24,434
Drum, red	--	--	--	--	72	144	--	--	--	--	72	144
Flounders	--	--	--	--	257	321	--	--	--	--	257	321
Groupers	--	--	--	--	--	--	14	140	--	--	14	140
Grunts	--	--	--	--	72	36	86	43	--	--	158	79
Jack, crevalle	525	787	507	760	1,049	1,573	51	76	54	81	2,186	3,277
Jack, other	--	--	--	--	510	510	--	--	--	--	510	510
King mackerel	--	--	--	--	260	2,080	27	216	--	--	287	2,296
King whiting	5,482	4,111	678	508	288	216	--	--	54	40	6,502	4,875
Little tuna	--	--	--	--	--	--	136	884	--	--	136	884
Mojarra	--	--	42	21	187	93	--	--	--	--	229	114
Mullet	--	--	--	--	101	101	--	--	--	--	101	101
Pigfish	--	--	--	--	--	--	--	--	--	--	--	--
Pinfish	3,129	782	381	95	420	105	--	--	--	--	3,930	982
Pompano	--	--	--	--	218	109	--	--	--	--	218	109
Porgies	--	--	--	--	--	--	86	172	--	--	86	172
Puffers	29,218	14,609	149	74	245	122	--	--	5,039	2,520	34,651	17,325
Rays	395	395	--	--	--	--	--	--	54	54	449	449
Sea bass, black	--	--	--	--	--	--	1,127	1,127	--	--	1,127	1,127
Sea bass, rock	--	--	--	--	--	--	--	--	--	--	--	--
Sea trout, spotted	22,087	38,652	191	334	204	357	--	--	9,555	16,721	32,037	56,064
Sea trout, other	27,798	27,798	149	149	636	636	--	--	--	--	28,583	28,583
Sharks	--	--	--	--	1,284	4,494	--	--	--	--	1,284	4,494
Sheepshead	3,127	3,909	149	186	182	227	13	16	702	878	4,173	5,216
Snapper, red	--	--	--	--	--	--	86	688	--	--	86	688
Snapper, mangrove	--	--	--	--	--	--	--	--	--	--	--	--
Snapper, other	--	--	--	--	--	--	14	42	--	--	14	42
Spadefish	--	--	--	--	--	--	--	--	--	--	--	--
Spanish mackerel	--	--	42	73	17	30	--	--	--	--	59	103
Spot	--	--	210	105	2,194	1,097	--	--	--	--	2,404	1,202
Tenpounder	251	251	--	--	--	--	--	--	--	--	251	251
Yellowtail	13,042	3,260	--	--	--	--	--	--	--	--	13,042	3,260
Unclassified fish	777	194	42	10	101	25	--	--	--	--	920	229
Total	120,202	129,410	27,573	27,485	18,542	29,134	1,654	3,614	15,512	20,348	183,483	209,991

Species	Northern Section										Combined total	
	Bank fishery		Bridges		Surf areas		Boat fishery		Subtotal			
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Amberjack	--	--	--	--	--	--	--	--	--	--	14	210
Black margate	--	--	--	--	--	--	--	--	--	--	1,931	1,931
Bluefish	16,956	25,434	27,016	40,528	4,586	6,880	943	1,414	49,531	74,256	58,487	87,689
Catfish	843	843	4,240	4,240	5,572	5,572	574	554	12,229	12,209	48,472	48,452
Croaker	--	--	--	--	--	--	--	--	--	--	389	194
Cutlassfish	--	--	--	--	--	--	--	--	--	--	407	509
Drum, black	4,992	7,488	--	--	2,436	3,654	943	1,414	8,371	12,556	10,148	36,990
Drum, red	--	--	--	--	--	--	492	984	492	984	564	1,128
Flounders	--	--	--	--	--	--	--	--	--	--	257	321
Groupers	--	--	--	--	--	--	--	--	--	--	14	140
Grunts	--	--	272	136	--	--	--	--	272	136	430	215
Jack, crevalle	843	1,263	1,038	1,552	40	60	328	492	2,243	3,367	4,429	6,644
Jack, other	--	--	--	--	--	--	--	--	--	--	510	510
King mackerel	--	--	272	1,176	--	--	--	--	272	1,176	559	4,472
King whiting	360	270	1,632	1,224	5,446	4,084	861	646	8,299	6,224	14,801	11,099
Little tuna	--	--	--	--	--	--	--	--	--	--	136	884
Mojarra	--	--	--	--	--	--	--	--	--	--	229	114
Mullet	--	--	--	--	--	--	--	--	--	--	101	101
Pigfish	--	--	272	64	--	--	--	--	272	64	272	64
Pinfish	1,422	360	11,141	2,784	--	--	697	174	13,263	3,318	17,193	4,300
Pompano	--	--	--	--	40	20	--	--	40	20	258	129
Porgies	--	--	--	--	--	--	--	--	--	--	86	172
Puffers	11,007	5,502	704	352	--	--	246	123	11,957	5,977	46,608	23,302
Rays	180	180	160	160	--	--	82	82	422	422	871	871
Sea bass, black	--	--	--	--	--	--	--	--	--	--	1,127	1,127
Sea bass, rock	--	--	872	216	--	--	--	--	872	216	872	216
Sea trout, spotted	6,357	11,130	1,304	2,280	102	178	20,785	36,374	28,548	49,962	60,585	106,026
Sea trout, other	--	--	--	--	--	--	--	--	--	--	28,583	28,583
Sharks	--	--	--	--	102	356	--	--	102	356	1,386	4,850
Sheepshead	180	216	4,128	5,160	--	--	3,608	4,510	7,916	9,886	12,089	15,102
Snapper, red	--	--	--	--	--	--	--	--	--	--	86	688
Snapper, mangrove	--	--	592	296	--	--	--	--	592	296	592	296
Snapper, other	--	--	--	--	--	--	--	--	--	--	14	42
Spadefish	--	--	160	80	--	--	--	--	160	80	160	80
Spanish mackerel	--	--	--	--	--	--	--	--	--	--	59	103
Spot	--	--	272	136	--	--	410	205	682	341	3,086	1,543
Tenpounder	--	--	--	--	--	--	--	--	--	--	251	251
Yellowtail	--	--	2,176	544	--	--	--	--	2,176	544	15,218	3,804
Unclassified fish	--	--	--	--	--	--	--	--	--	--	920	229
Total	43,140	52,686	56,348	61,928	19,324	21,804	29,969	46,972	148,681	183,390	332,164	393,381

Table 42.--Estimated sport fishery catch, Cape Canaveral Area; April 1963, in numbers of fish and weight in pounds, by section, by facility, by species

Species	Southern Section											
	Bridges and causeways		Ocean piers		Port Canaveral inside		Port Canaveral outside		Boat fishery		Subtotal	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Bluefish	5,811	8,716	455	682	795	1,192	96	144	--	--	7,157	10,734
Catfish	754	754	1,306	1,306	--	--	--	--	3,709	3,709	5,769	5,769
Croaker	--	--	--	--	598	299	--	--	--	--	598	299
Cutlassfish	--	--	--	--	994	1,242	--	--	--	--	994	1,242
Drum, black	--	--	--	--	--	--	--	--	--	--	--	--
Drum, red	--	--	--	--	--	--	--	--	3,709	7,418	3,709	7,418
Flounders	--	--	--	--	653	816	--	--	--	--	653	816
Groupers	--	--	--	--	--	--	--	--	--	--	--	--
Jack, crevalle	--	--	89	133	95	142	--	--	--	--	184	275
King whiting	174	130	2,814	2,110	966	724	--	--	2,828	2,121	6,782	5,085
Pigfish	1,324	331	--	--	--	--	--	--	--	--	1,324	331
Pinfish	3,561	890	--	--	5,522	1,380	--	--	--	--	9,083	2,270
Pompano	--	--	--	--	--	--	--	--	--	--	--	--
Puffers	18,098	9,049	--	--	--	--	--	--	1,994	997	20,092	10,046
Rays	--	--	--	--	--	--	--	--	--	--	--	--
Sea bass, black	--	--	--	--	--	--	--	--	--	--	--	--
Sea bass, rock	--	--	--	--	--	--	--	--	--	--	--	--
Sea trout, spotted	30,804	53,907	89	156	--	--	--	--	6,537	11,440	37,430	65,503
Sea trout, other	19,170	19,170	--	--	330	330	--	--	--	--	19,500	19,500
Sheepshead	3,487	4,359	--	--	519	649	--	--	--	--	4,006	5,008
Snapper, mangrove	--	--	--	--	--	--	--	--	278	139	278	139
Snapper, other	--	--	--	--	141	423	--	--	--	--	141	423
Spadefish	--	--	89	44	--	--	--	--	--	--	89	44
Spot	--	--	--	--	748	374	--	--	--	--	748	374
Tenpounder	281	281	--	--	--	--	--	--	--	--	281	281
Yellowtail	3,957	989	--	--	--	--	--	--	--	--	3,957	989
Unclassified fish	16,660	4,165	--	--	607	152	--	--	13,955	3,489	31,222	7,806
Total	104,081	102,741	4,842	4,431	11,968	7,723	96	144	33,010	29,313	153,997	144,352

Species	Northern Section											
	Bank fishery		Bridges		Surf areas		Boat fishery		Subtotal		Combined total	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Bluefish	90	144	2,496	3,744	1,028	1,542	383	574	3,997	6,004	11,154	16,738
Catfish	1,221	1,221	--	--	568	450	--	--	1,789	1,671	7,558	7,440
Croaker	--	--	624	312	--	--	--	--	624	312	1,222	611
Cutlassfish	--	--	--	--	--	--	--	--	--	--	994	1,242
Drum, black	1,311	1,974	--	--	4,508	6,762	851	1,276	6,670	10,012	6,670	10,012
Drum, red	--	--	624	1,248	96	192	255	510	975	1,950	4,684	9,368
Flounders	--	--	--	--	--	--	128	160	128	160	781	976
Groupers	--	--	624	312	--	--	--	--	624	312	624	312
Jack, crevalle	--	--	624	936	96	144	--	--	720	1,080	904	1,355
King whiting	612	459	624	464	2,624	1,968	978	734	4,838	3,625	11,620	8,710
Pigfish	--	--	1,248	312	--	--	--	--	1,248	312	2,572	643
Pinfish	2,016	498	16,216	4,056	374	94	510	128	19,116	4,776	28,199	7,046
Pompano	--	--	--	--	96	48	--	--	96	48	96	48
Puffers	23,940	11,970	--	--	96	48	--	--	24,036	12,018	44,128	22,064
Rays	--	--	--	--	96	96	--	--	96	96	96	96
Sea bass, black	--	--	1,248	1,248	--	--	--	--	1,248	1,248	1,248	1,248
Sea bass, rock	--	--	4,376	1,096	--	--	--	--	4,376	1,096	4,376	1,096
Sea trout, spotted	11,688	20,454	--	--	--	--	30,747	53,807	42,435	74,261	79,865	139,764
Sea trout, other	--	--	--	--	--	--	--	--	--	--	19,500	19,500
Sheepshead	90	108	3,120	3,904	96	120	4,423	5,529	7,729	9,661	11,735	14,669
Snapper, mangrove	--	--	--	--	--	--	--	--	--	--	278	139
Snapper, other	--	--	--	--	--	--	--	--	--	--	141	423
Spadefish	--	--	3,752	1,872	--	--	--	--	3,752	1,872	3,841	1,916
Spot	864	432	--	--	--	--	--	--	864	432	1,612	806
Tenpounder	--	--	--	--	--	--	--	--	--	--	281	281
Yellowtail	3,402	846	--	--	96	24	--	--	3,498	870	7,455	1,859
Unclassified fish	90	18	--	--	--	--	--	--	90	18	31,312	7,824
Total	45,324	38,124	35,576	19,504	9,774	11,488	38,275	62,718	128,949	131,834	282,946	276,186

Table 43.--Estimated sport fishery catch, Cape Canaveral Area; May 1963, in numbers of fish and weight in pounds, by section, by facility, by species

Species	Southern Section											
	Bridges and causeways		Ocean piers		Port Canaveral inside		Port Canaveral outside		Boat fishery		Subtotal	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Amberjack	--	--	--	--	--	--	184	2,760	--	--	184	2,760
Black margate	--	--	593	593	--	--	--	--	--	--	593	593
Bluefish	--	--	--	--	58	87	26	39	278	417	362	543
Catfish	7,862	7,722	106	106	116	116	--	--	2,470	2,470	10,554	10,414
Croaker	278	139	--	--	2,775	1,387	82	41	800	400	3,935	1,967
Cutlassfish	--	--	--	--	575	719	--	--	--	--	575	719
Dolphin	--	--	--	--	--	--	26	208	--	--	26	208
Drum, black	1,140	15,675	35	481	58	797	--	--	--	--	1,233	16,953
Eels	--	--	--	--	25	50	--	--	--	--	25	50
Flounders	--	--	--	--	1,581	1,976	--	--	--	--	1,581	1,976
Groupers	--	--	--	--	84	840	261	2,610	--	--	345	3,450
Grunts	--	--	--	--	--	--	--	--	--	--	--	--
Jack, crevalle	278	417	--	--	461	691	15	22	--	--	754	1,130
King mackerel	--	--	--	--	51	408	610	4,880	--	--	661	5,288
King whiting	2,131	1,598	560	420	182	136	53	40	--	--	2,926	2,194
Mullet	131	131	--	--	182	182	--	--	--	--	313	313
Pigfish	7,563	1,891	--	--	--	--	15	4	--	--	7,578	1,895
Pinfish	8,285	2,071	106	26	4,785	1,196	--	--	--	--	13,176	3,293
Pompano	1,159	579	--	--	--	--	--	--	--	--	1,159	579
Puffers	35,564	17,782	--	--	--	--	--	--	--	--	35,564	17,782
Rays	104	104	--	--	--	--	--	--	--	--	104	104
Sea bass, black	--	--	--	--	25	25	1,717	1,717	--	--	1,742	1,742
Sea bass, rock	--	--	--	--	--	--	--	--	--	--	--	--
Sea robin	--	--	--	--	58	14	--	--	--	--	58	14
Sea trout, spotted	32,838	57,466	--	--	116	203	53	93	9,359	16,378	42,366	74,140
Sea trout, other	10,961	10,961	--	--	--	--	--	--	--	--	10,961	10,961
Sharks	--	--	--	--	58	203	41	143	--	--	99	346
Sheepshead	1,466	1,832	--	--	83	104	--	--	--	--	1,549	1,936
Snapper, red	--	--	--	--	--	--	955	7,640	--	--	955	7,640
Snapper, mangrove	655	327	--	--	84	42	--	--	--	--	739	369
Snapper, other	--	--	--	--	--	--	369	1,107	--	--	369	1,107
Spadefish	187	93	--	--	--	--	--	--	--	--	187	93
Spanish mackerel	--	--	--	--	--	--	--	--	--	--	--	--
Spot	187	93	177	88	893	446	--	--	--	--	1,257	627
Tenpounder	589	589	--	--	--	--	--	--	--	--	589	589
Triggerfish	--	--	--	--	--	--	54	135	--	--	54	135
Yellowtail	3,627	907	--	--	--	--	--	--	--	--	3,627	907
Unclassified fish	4,596	1,149	--	--	109	27	--	--	--	--	4,705	1,176
Total	119,601	121,526	1,577	1,714	12,359	9,649	4,461	21,439	12,907	19,665	150,905	173,993

Species	Northern Section										Combined total	
	Bank fishery		Bridges		Surf areas		Boat fishery		Subtotal			
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Amberjack	--	--	--	--	--	--	--	--	--	--	184	2,760
Black margate	--	--	--	--	--	--	--	--	--	--	593	593
Bluefish	--	--	--	--	--	--	--	--	--	--	362	543
Catfish	1,728	1,485	792	752	3,418	3,418	4,222	4,170	10,160	9,825	20,714	20,239
Croaker	234	108	160	80	--	--	--	--	394	188	4,329	2,155
Cutlassfish	--	--	--	--	--	--	--	--	--	--	575	719
Dolphin	--	--	--	--	--	--	--	--	--	--	26	208
Drum, black	186	279	--	--	84	126	412	618	682	1,023	1,915	17,976
Eels	--	--	--	--	--	--	--	--	--	--	25	50
Flounders	--	--	--	--	--	--	--	--	--	--	1,581	1,976
Groupers	--	--	--	--	--	--	--	--	--	--	345	3,450
Grunts	--	--	400	200	--	--	--	--	400	200	400	200
Jack, crevalle	186	279	160	240	--	--	309	464	655	983	1,409	2,113
King mackerel	--	--	--	--	--	--	--	--	--	--	661	5,288
King whiting	1,356	1,017	1,248	936	4,168	3,126	790	592	7,562	5,671	10,488	7,865
Mullet	--	--	--	--	--	--	--	--	--	--	313	313
Pigfish	--	--	1,720	432	--	--	790	198	2,510	630	10,088	2,525
Pinfish	--	--	4,392	1,096	750	188	3,021	755	8,163	2,039	21,339	5,332
Pompano	--	--	312	160	84	42	--	--	396	202	1,555	781
Puffers	13,860	6,930	160	80	--	--	--	--	14,020	7,010	49,584	24,792
Rays	186	186	72	72	--	--	206	206	464	464	568	568
Sea bass, black	--	--	472	472	--	--	--	--	472	472	2,214	2,214
Sea bass, rock	--	--	72	16	--	--	--	--	72	16	72	16
Sea robin	--	--	72	16	--	--	--	--	72	16	130	30
Sea trout, spotted	4,812	8,421	232	408	--	--	26,674	46,680	31,718	55,509	74,084	129,649
Sea trout, other	--	--	--	--	--	--	--	--	--	--	10,961	10,961
Sharks	--	--	72	256	--	--	--	--	72	256	171	602
Sheepshead	234	288	3,448	4,312	84	104	2,403	3,004	6,169	7,708	7,718	9,644
Snapper, red	--	--	--	--	--	--	--	--	--	--	955	7,640
Snapper, mangrove	--	--	--	--	--	--	--	--	--	--	739	369
Snapper, other	--	--	--	--	--	--	--	--	--	--	369	1,107
Spadefish	--	--	312	160	--	--	--	--	312	160	499	253
Spanish mackerel	--	--	--	--	84	148	--	--	84	148	84	148
Spot	--	--	632	320	166	84	--	--	798	404	2,055	1,031
Tenpounder	186	186	--	--	--	--	893	893	1,079	1,079	1,668	1,668
Triggerfish	--	--	--	--	--	--	--	--	--	--	54	135
Yellowtail	--	--	--	--	--	--	--	--	--	--	3,627	907
Unclassified fish	720	180	3,128	784	166	42	1,202	300	5,216	1,306	9,921	2,482
Total	23,688	19,359	17,856	10,792	9,004	7,278	40,922	57,880	91,470	95,309	242,375	269,302

Table 44.--Estimated sport fishery catch, Cape Canaveral Area; June 1963, in numbers of fish and weight in pounds, by section, by facility, by species

Species	Southern Section											
	Bridges and causeways		Ocean piers		Port Canaveral inside		Port Canaveral outside		Boat fishery		Subtotal	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Amberjack	--	--	--	--	--	--	82	1,230	--	--	82	1,230
Black margate	--	--	1,167	1,167	--	--	--	--	--	--	1,167	1,167
Cabio	--	--	--	--	--	--	54	486	--	--	54	486
Catfish	1,653	1,653	62	62	37	37	--	--	13,345	13,345	15,097	15,097
Croaker	71	35	3,388	1,694	1,343	671	133	66	--	--	4,935	2,466
Cutlassfish	--	--	--	--	97	121	--	--	--	--	97	121
Dolphin	--	--	--	--	--	--	20	160	--	--	20	160
Drum, black	165	2,269	62	852	272	3,740	--	--	--	--	499	6,861
Drum, red	464	928	--	--	--	--	--	--	--	--	464	928
Flounders	--	--	--	--	210	262	14	17	--	--	224	279
Groupers	--	--	--	--	--	--	48	480	--	--	48	480
Grunts	390	195	--	--	97	48	--	--	--	--	487	243
Jack, crevalle	--	--	--	--	--	--	--	--	--	--	--	--
King mackerel	--	--	--	--	--	--	468	3,744	--	--	468	3,744
King whiting	7,043	5,282	2,007	1,505	181	136	--	--	262	196	9,493	7,119
Pigfish	263	66	--	--	--	--	--	--	112	28	375	94
Pinfish	8,037	2,009	84	21	2,283	571	366	91	--	--	10,770	2,692
Puffers	9,836	4,918	--	--	--	--	--	--	10,121	5,060	19,957	9,978
Rays	143	143	--	--	--	--	--	--	--	--	143	143
Sea bass, black	--	--	--	--	97	97	20	20	--	--	117	117
Sea bass, rock	--	--	--	--	144	36	61	15	--	--	205	51
Sea robin	--	--	62	15	--	--	--	--	--	--	62	15
Sea trout, spotted	4,670	8,172	84	147	--	--	--	--	15,594	27,289	20,348	35,608
Sea trout, other	9,680	9,680	--	--	--	--	--	--	--	--	9,680	9,680
Sharks	71	248	84	294	--	--	34	119	--	--	189	661
Sheepshead	3,824	4,780	259	324	--	--	--	--	13,495	16,869	17,578	21,973
Snapper, red	--	--	--	--	--	--	870	6,960	--	--	870	6,960
Snapper, mangrove	645	322	--	--	--	--	--	--	--	--	645	322
Snapper, other	--	--	--	--	--	--	340	1,020	--	--	340	1,020
Spadefish	544	272	192	96	193	96	14	7	--	--	943	471
Spanish mackerel	--	--	--	--	--	--	68	119	--	--	68	119
Spot	2,388	1,194	947	473	1,715	857	--	--	--	--	5,050	2,524
Tenpounder	--	--	--	--	--	--	--	--	262	262	262	262
Yellowtail	6,977	1,744	--	--	--	--	--	--	262	66	7,239	1,810
Unclassified fish	3,696	924	306	76	503	126	--	--	--	--	4,505	1,126
Total	60,560	44,834	8,704	6,726	7,172	6,798	2,592	14,534	53,453	63,115	132,481	136,007

Species	Northern Section											
	Bank fishery		Bridges		Surf areas		Boat fishery		Subtotal		Combined total	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Amberjack	--	--	--	--	--	--	--	--	--	--	82	1,230
Black margate	--	--	--	--	--	--	--	--	--	--	1,167	1,167
Cabio	--	--	--	--	--	--	--	--	--	--	54	486
Catfish	1,527	1,527	2,088	2,088	846	846	54	54	4,515	4,515	19,612	19,612
Croaker	--	--	336	168	164	82	--	--	500	250	5,435	2,716
Cutlassfish	--	--	--	--	--	--	--	--	--	--	97	121
Dolphin	--	--	--	--	--	--	--	--	--	--	20	160
Drum, black	141	210	--	--	--	--	54	81	195	291	694	7,152
Drum, red	--	--	--	--	--	--	461	922	461	922	925	1,850
Flounders	--	--	--	--	32	40	--	--	32	40	256	319
Groupers	54	27	--	--	--	--	--	--	54	27	102	507
Grunts	--	--	--	--	--	--	--	--	--	--	487	243
Jack, crevalle	--	--	112	168	--	--	--	--	112	168	112	168
King mackerel	--	--	--	--	--	--	--	--	--	--	468	3,744
King whiting	285	204	1,232	928	228	172	54	40	1,799	1,344	11,292	8,463
Pigfish	--	--	232	56	--	--	--	--	232	56	607	150
Pinfish	4,071	1,023	6,808	1,704	164	40	271	68	11,314	2,835	22,084	5,527
Puffers	11,892	5,946	--	--	--	--	--	--	11,892	5,946	31,849	15,924
Rays	--	--	56	56	--	--	--	--	56	56	199	199
Sea bass, black	--	--	56	56	--	--	--	--	56	56	173	173
Sea bass, rock	--	--	232	56	--	--	--	--	232	56	437	107
Sea robin	--	--	56	16	--	--	--	--	56	16	118	31
Sea trout, spotted	2,136	3,741	--	--	--	--	16,037	28,065	18,173	31,806	38,521	67,414
Sea trout, other	141	141	--	--	--	--	--	--	141	141	9,821	9,821
Sharks	--	--	--	--	32	112	--	--	32	112	221	773
Sheepshead	1,089	1,362	448	560	98	122	461	576	2,096	2,620	19,674	24,593
Snapper, red	--	--	--	--	--	--	--	--	--	--	870	6,960
Snapper, mangrove	--	--	56	32	--	--	--	--	56	32	701	354
Snapper, other	--	--	--	--	--	--	--	--	--	--	340	1,020
Spadefish	--	--	232	112	--	--	--	--	232	112	1,175	583
Spanish mackerel	--	--	--	--	--	--	--	--	--	--	68	119
Spot	87	42	--	--	98	48	--	--	185	90	5,235	2,614
Tenpounder	87	87	--	--	--	--	--	--	87	87	349	349
Yellowtail	513	138	--	--	--	--	--	--	513	138	7,752	1,948
Unclassified fish	54	12	960	240	--	--	--	--	1,014	252	5,519	1,378
Total	22,077	14,460	12,904	6,240	1,662	1,462	17,392	29,806	54,035	51,968	186,516	187,975

Table 45.--Estimated sport fishery catch, Cape Canaveral Area; July 1963, in numbers of fish and weight in pounds, by section, by facility, by species

Species	Southern Section									
	Bridges and causeways		Ocean piers		Port Canaveral inside		Port Canaveral outside		Subtotal	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Amberjack	--	--	--	--	--	--	505	7,575	505	7,575
Barracuda	--	--	--	--	573	4,584	15	120	588	4,704
Black margate	--	--	79	79	--	--	--	--	79	79
Bluefish	--	--	40	60	--	--	15	22	55	82
Cabio	--	--	--	--	--	--	62	558	62	558
Catfish	10,924	10,738	1,790	1,754	192	192	--	--	12,906	12,684
Croaker	1,147	573	1,709	854	11,491	5,745	--	--	14,347	7,172
Cutlassfish	--	--	--	--	662	827	--	--	662	827
Dolphin	--	--	--	--	--	--	35	280	35	280
Drum, black	116	1,595	53	729	1,520	20,900	--	--	1,689	23,224
Drum, red	113	226	--	--	58	116	--	--	171	342
Eels	--	--	--	--	--	--	--	--	--	--
Flounders	--	--	16	20	729	911	5	6	750	937
Groupers	--	--	--	--	--	--	63	630	63	630
Grunts	331	165	231	115	2,673	1,336	--	--	3,235	1,616
Jack, crevalle	86	129	16	24	218	327	22	33	342	513
Jack, other	--	--	--	--	26	26	--	--	26	26
King mackerel	--	--	--	--	--	--	197	1,576	197	1,576
King whiting	5,655	4,241	5,652	4,239	2,104	1,578	--	--	13,411	10,058
Little tuna	--	--	16	104	--	--	324	2,171	350	2,275
Mojarra	--	--	--	--	301	150	--	--	301	150
Mullet	584	584	--	--	51	51	--	--	635	635
Pigfish	119	30	--	--	809	202	--	--	928	232
Pinfish	13,711	3,428	970	242	14,140	3,535	--	--	28,821	7,205
Pompano	327	163	--	--	--	--	--	--	327	163
Puffers	12,243	6,121	42	21	--	--	--	--	12,285	6,142
Rays	227	227	16	16	--	--	--	--	243	243
Sea bass, black	--	--	26	26	--	--	3,582	3,582	3,608	3,608
Sea bass, rock	--	--	152	38	--	--	--	--	152	38
Sea robin	--	--	53	13	--	--	--	--	53	13
Sea trout, spotted	10,191	17,834	119	208	86	150	--	--	10,396	18,192
Sea trout, other	18,272	18,272	32	32	26	26	--	--	18,330	18,330
Sharks	29	101	283	990	51	178	--	--	363	1,269
Sheepshead	3,414	4,267	--	--	3,081	3,851	--	--	6,495	8,118
Snapper, red	--	--	--	--	--	--	1,598	12,784	1,598	12,784
Snapper, mangrove	304	152	--	--	436	218	--	--	740	370
Snapper, other	--	--	--	--	--	--	29	87	29	87
Spadefish	875	437	545	272	340	170	--	--	1,760	879
Spot	86	43	3,217	1,608	4,345	2,172	--	--	7,648	3,823
Tenpounder	213	213	--	--	--	--	--	--	213	213
Yellowtail	6,893	1,723	275	69	51	13	--	--	7,219	1,805
Unclassified fish	2,785	696	3,302	825	1,408	352	--	--	7,495	1,873
Total	88,645	71,958	18,634	12,338	45,371	47,610	6,462	29,424	159,112	161,330

Species	Northern Section										Combined total	
	Bank fishery		Bridges		Surf areas		Boat fishery		Subtotal			
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Amberjack	--	--	--	--	--	--	--	--	--	--	505	7,575
Barracuda	--	--	--	--	--	--	--	--	--	--	588	4,704
Black margate	--	--	--	--	--	--	--	--	--	--	79	79
Bluefish	18	27	24	32	180	270	58	87	280	416	335	498
Cabio	--	--	--	--	--	--	--	--	--	--	62	558
Catfish	2,154	2,136	2,448	2,432	3,668	3,662	1,670	1,670	9,940	9,900	22,846	22,584
Croaker	1,899	948	--	--	266	132	518	259	2,683	1,339	17,030	8,511
Cutlassfish	--	--	--	--	--	--	--	--	--	--	662	827
Dolphin	--	--	--	--	--	--	--	--	--	--	35	280
Drum, black	186	279	176	264	158	236	518	777	1,038	1,556	2,727	24,780
Drum, red	90	180	112	224	--	--	288	576	490	980	661	1,322
Eels	--	--	64	128	--	--	--	--	64	128	64	128
Flounders	--	--	64	80	--	--	173	216	237	296	987	1,233
Groupers	36	18	88	48	--	--	115	58	239	124	302	754
Grunts	69	33	136	64	46	24	--	--	251	121	3,486	1,737
Jack, crevalle	198	297	152	224	--	--	633	951	983	1,471	1,325	1,984
Jack, other	--	--	--	--	--	--	--	--	--	--	26	26
King mackerel	--	--	--	--	--	--	--	--	--	--	197	1,576
King whiting	1,344	1,002	1,752	1,312	1,944	1,458	1,094	820	6,134	4,592	19,545	14,650
Little tuna	--	--	--	--	--	--	--	--	--	--	350	2,275
Mojarra	--	--	--	--	--	--	--	--	--	--	301	150
Mullet	--	--	48	48	--	--	--	--	48	48	683	683
Pigfish	1,326	336	1,352	336	--	--	403	101	3,081	773	4,009	1,005
Pinfish	3,507	885	5,160	1,288	68	16	2,764	691	11,499	2,880	40,320	10,085
Pompano	--	--	--	--	--	--	--	--	--	--	327	163
Puffers	3,960	1,980	112	56	--	--	115	58	4,187	2,094	16,472	8,236
Rays	69	69	88	88	22	22	--	--	179	179	422	422
Sea bass, black	198	198	352	352	--	--	58	58	608	608	4,216	4,216
Sea bass, rock	--	--	64	16	--	--	--	--	64	16	216	54
Sea robin	--	--	64	16	--	--	--	--	64	16	117	29
Sea trout, spotted	1,326	2,519	624	1,088	--	--	32,357	56,625	34,307	60,032	44,703	78,224
Sea trout, other	36	36	--	--	--	--	--	--	36	36	18,366	18,366
Sharks	33	114	48	168	22	76	173	606	276	964	639	2,233
Sheepshead	768	960	936	1,168	248	310	2,188	2,735	4,140	5,173	10,635	13,291
Snapper, red	--	--	--	--	--	--	--	--	--	--	1,598	12,784
Snapper, mangrove	177	87	176	88	22	12	58	29	433	216	1,173	586
Snapper, other	36	108	--	--	--	--	--	--	36	108	65	195
Spadefish	264	132	376	192	--	--	--	--	640	324	2,400	1,203
Spot	429	213	2,152	1,072	--	--	--	--	2,581	1,285	10,229	5,108
Tenpounder	33	33	48	48	--	--	230	230	311	311	524	524
Yellowtail	1,020	255	352	88	46	12	173	43	1,591	398	8,810	2,203
Unclassified fish	990	243	1,400	352	--	--	1,036	259	3,426	854	10,921	2,727
Total	20,166	12,888	18,368	11,272	6,690	6,230	44,622	66,848	89,846	97,238	248,958	258,568

Table 46.--Estimated sport fishery catch, Cape Canaveral Area; August 1963, in numbers of fish and weight in pounds, by section, by facility, by species

Species	Southern Section									
	Bridges and causeways		Ocean piers		Port Canaveral inside		Port Canaveral outside		Subtotal	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Amberjack	--	--	--	--	--	--	14	210	14	210
Barracuda	--	--	--	--	--	--	54	432	54	432
Black margate	--	--	1,017	1,017	530	530	102	102	1,649	1,649
Bluefish	61	92	34	51	56	84	24	36	175	263
Cabio	--	--	--	--	--	--	29	261	29	261
Catfish	11,611	11,466	3,372	3,703	255	237	10	10	15,248	15,416
Croaker	1,031	515	269	134	706	353	252	126	2,258	1,128
Cutlassfish	--	--	--	--	288	360	--	--	288	360
Dolphin	--	--	--	--	--	--	378	3,024	378	3,024
Drum, black	647	8,896	192	2,640	104	1,430	15	206	958	13,172
Drum, red	28	56	--	--	16	32	--	--	44	88
Eels	--	--	--	--	8	16	--	--	8	16
Flounders	69	86	253	360	255	319	10	12	587	777
Groupers	--	--	--	--	--	--	115	1,150	115	1,150
Grunts	629	314	--	--	70	35	--	--	699	349
Jack, crevalle	826	1,239	152	228	171	256	15	22	1,164	1,745
Jack, other	--	--	--	--	71	71	--	--	71	71
King mackerel	--	--	--	--	--	--	1,036	8,288	1,036	8,288
King whiting	11,830	8,872	1,767	1,325	186	139	10	7	13,793	10,343
Little tuna	--	--	--	--	342	2,223	355	2,307	697	4,530
Mojarra	--	--	--	--	170	85	--	--	170	85
Mullet	4,236	4,236	--	--	161	161	--	--	4,397	4,397
Pigfish	1,379	345	50	12	42	10	--	--	1,471	367
Pinfish	14,001	3,500	--	--	2,153	538	10	2	16,164	4,040
Pompano	97	48	51	25	40	20	--	--	188	93
Puffers	7,406	3,703	25	12	20	10	--	--	7,451	3,725
Rays	181	181	--	--	36	36	--	--	217	217
Sea bass, black	--	--	--	--	20	20	2,417	2,417	2,437	2,437
Sea bass, rock	--	--	25	6	--	--	--	--	25	6
Sea robin	--	--	175	44	--	--	--	--	175	44
Sea trout, spotted	5,428	9,499	25	44	78	136	10	17	5,541	9,696
Sea trout, other	19,077	19,077	--	--	38	38	49	49	19,164	19,164
Sharks	--	--	--	--	--	--	24	84	24	84
Sheepshead	3,436	4,295	185	231	472	590	126	157	4,219	5,273
Snapper, red	--	--	--	--	38	304	830	6,640	868	6,944
Snapper, mangrove	367	183	--	--	162	81	--	--	529	264
Snapper, other	--	--	25	75	--	--	105	315	130	390
Spadefish	1,441	720	218	109	184	92	10	5	1,853	926
Spanish mackerel	--	--	--	--	--	--	15	26	15	26
Spot	158	79	354	177	3,913	1,956	10	5	4,435	2,217
Tenpounder	689	689	--	--	--	--	43	43	732	732
Yellowtail	9,714	2,428	51	13	--	--	--	--	9,765	2,441
Unclassified fish	2,628	657	252	63	541	135	--	--	3,421	855
Total	96,970	81,176	8,492	10,269	11,126	10,297	6,068	25,953	122,656	127,695

Species	Northern Section											
	Bank fishery		Bridges		Surf areas		Boat fishery		Subtotal		Combined total	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Amberjack	--	--	--	--	--	--	--	--	--	--	14	210
Barracuda	--	--	--	--	--	--	--	--	--	--	54	432
Black margate	--	--	--	--	--	--	--	--	--	--	1,649	1,649
Bluefish	--	--	320	480	86	128	--	--	406	608	581	871
Cabio	--	--	--	--	--	--	--	--	--	--	29	261
Catfish	2,802	2,739	1,480	1,472	594	594	659	650	5,535	5,455	20,783	20,871
Croaker	174	78	576	288	260	130	146	73	1,156	569	3,414	1,697
Cutlassfish	--	--	88	112	--	--	--	--	88	112	376	472
Dolphin	--	--	--	--	--	--	--	--	--	--	378	3,024
Drum, black	63	93	88	128	260	390	403	604	814	1,215	1,772	14,387
Drum, red	--	--	200	400	172	344	329	658	701	1,402	745	1,490
Eels	--	--	32	64	--	--	--	--	32	64	40	80
Flounders	--	--	--	--	86	108	--	--	86	108	673	885
Groupers	162	72	56	32	--	--	--	--	218	104	333	1,254
Grunts	420	210	288	144	--	--	--	--	708	354	1,407	703
Jack, crevalle	189	282	640	960	86	128	183	274	1,098	1,644	2,262	3,389
Jack, other	--	--	--	--	--	--	--	--	--	--	71	71
King mackerel	--	--	--	--	--	--	--	--	--	--	1,036	8,288
King whiting	741	561	1,304	976	1,968	1,476	476	357	4,489	3,370	18,282	13,713
Little tuna	--	--	--	--	--	--	--	--	--	--	697	4,530
Mojarra	--	--	--	--	--	--	--	--	--	--	170	85
Mullet	--	--	--	--	--	--	73	73	73	73	4,470	4,470
Pigfish	1,407	348	2,664	664	--	--	293	73	4,364	1,085	5,835	1,452
Pinfish	8,544	2,127	4,776	1,192	--	--	293	73	13,613	3,392	29,777	7,432
Pompano	90	36	56	32	172	86	37	18	355	172	543	265
Puffers	2,715	1,356	232	112	--	--	329	164	3,276	1,632	10,727	5,357
Rays	63	63	112	112	--	--	--	--	175	175	392	392
Sea bass, black	--	--	32	32	--	--	37	37	69	69	2,506	2,506
Sea bass, rock	--	--	32	8	--	--	37	9	69	17	94	23
Sea robin	--	--	56	16	--	--	--	--	56	16	231	60
Sea trout, spotted	1,248	2,187	928	1,624	--	--	26,725	46,769	28,901	50,580	34,442	60,276
Sea trout, other	--	--	--	--	--	--	--	--	--	--	19,164	19,164
Sharks	21	72	32	112	--	--	--	--	53	184	77	268
Sheepshead	555	684	1,680	2,096	172	216	476	595	2,883	3,591	7,102	8,864
Snapper, red	--	--	--	--	--	--	--	--	--	--	868	6,944
Snapper, mangrove	--	--	376	192	--	--	73	36	449	228	978	492
Snapper, other	--	--	--	--	--	--	--	--	--	--	130	390
Spadefish	--	--	1,160	576	260	130	--	--	1,420	706	3,273	1,632
Spanish mackerel	--	--	--	--	--	--	--	--	--	--	15	26
Spot	2,202	1,092	8,168	4,080	--	--	183	92	10,553	5,264	14,988	7,481
Tenpounder	294	294	200	200	86	86	183	183	763	763	1,495	1,495
Yellowtail	1,284	321	32	8	--	--	--	--	1,316	329	11,081	2,770
Unclassified fish	342	81	552	136	86	22	476	119	1,456	358	4,877	1,213
Total	23,316	12,696	26,160	16,248	4,288	3,838	31,411	50,857	85,175	83,639	207,831	211,334

Table 47.--Estimated sport fishery catch, Cape Canaveral Area; September 1963, in numbers of fish and weight in pounds, by section, by facility, by species

Species	Southern Section									
	Bridges and causeways		Ocean piers		Port Canaveral inside		Port Canaveral outside		Subtotal	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Black margate	--	--	1,041	1,041	705	705	--	--	1,746	1,746
Bluefish	--	--	816	1,224	14	21	--	--	830	1,245
Cabio	--	--	--	--	--	--	19	171	19	171
Catfish	18,490	17,975	2,833	2,757	962	881	--	--	22,285	21,613
Croaker	1,459	729	111	55	768	384	--	--	2,338	1,168
Cutlassfish	--	--	211	264	14	17	--	--	225	281
Dolphin	--	--	--	--	--	--	102	816	102	816
Drum, black	690	9,487	179	2,461	160	2,200	--	--	1,029	14,148
Drum, red	181	362	--	--	25	50	--	--	206	412
Eels	--	--	--	--	25	50	--	--	25	50
Flounders	--	--	137	171	101	126	5	6	243	303
Groupers	--	--	--	--	--	--	64	640	64	640
Grunts	479	239	--	--	258	129	275	137	1,012	505
Jack, crevalle	435	652	144	216	102	153	53	79	734	1,100
King mackerel	--	--	--	--	58	464	238	1,904	296	2,368
King whiting	10,800	8,100	1,562	1,171	209	157	--	--	12,571	9,428
Little tuna	--	--	--	--	35	227	133	864	168	1,091
Mojarra	--	--	--	--	157	78	--	--	157	78
Mullet	1,495	1,495	--	--	25	25	--	--	1,520	1,520
Pigfish	4,392	1,098	--	--	313	78	--	--	4,705	1,176
Pinfish	26,645	6,661	94	23	2,011	503	--	--	28,750	7,187
Pompano	--	--	467	233	49	24	--	--	516	257
Puffers	37,473	18,736	--	--	--	--	--	--	37,473	18,736
Rays	650	650	--	--	63	63	--	--	713	713
Sea bass, black	--	--	--	--	35	35	1,299	1,299	1,334	1,334
Sea bass, rock	--	--	293	73	98	24	--	--	391	97
Sea robin	--	--	193	48	25	6	--	--	218	54
Sea trout, spotted	8,749	15,311	--	--	317	555	--	--	9,066	15,866
Sea trout, other	24,250	24,250	--	--	35	35	--	--	24,285	24,285
Sharks	--	--	--	--	98	343	8	28	106	371
Sheepshead	4,651	5,814	68	85	708	885	--	--	5,427	6,784
Snapper, red	--	--	--	--	--	--	1,056	8,448	1,056	8,448
Snapper, mangrove	545	272	--	--	565	282	--	--	1,110	554
Snapper, other	--	--	--	--	14	42	49	147	63	189
Spadefish	2,822	1,411	137	68	578	289	--	--	3,537	1,768
Spot	1,915	957	--	--	1,389	694	--	--	3,304	1,651
Tenpounder	786	786	137	137	25	25	--	--	948	948
Triggerfish	--	--	--	--	--	--	138	345	138	345
Yellowtail	13,014	3,253	26	6	14	3	--	--	13,054	3,262
Unclassified fish	8,673	2,168	1,370	342	219	55	8	2	10,270	2,567
Total	168,594	120,406	9,819	10,375	10,174	9,608	3,447	14,886	192,034	155,275

Species	Northern Section											
	Bank fishery		Bridges		Surf areas		Boat fishery		Subtotal		Combined total	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Black margate	--	--	--	--	--	--	--	--	--	--	1,746	1,746
Bluefish	--	--	128	192	102	152	--	--	230	344	1,060	1,589
Cabio	--	--	--	--	--	--	--	--	--	--	19	171
Catfish	1,473	1,473	1,224	1,216	910	870	877	877	4,484	4,436	26,769	26,049
Croaker	2,196	1,098	328	160	--	--	155	78	2,679	1,336	5,017	2,504
Cutlassfish	--	--	480	600	--	--	--	--	480	600	705	881
Dolphin	--	--	--	--	--	--	--	--	--	--	102	816
Drum, black	--	--	40	64	54	80	1,032	1,548	1,126	1,692	2,155	15,840
Drum, red	384	768	288	576	--	--	722	1,444	1,394	2,788	1,600	3,200
Eels	--	--	80	160	--	--	--	--	80	160	105	210
Flounders	--	--	208	256	54	68	--	--	262	324	505	627
Groupers	--	--	64	32	--	--	52	26	116	58	180	698
Grunts	--	--	1,056	528	--	--	2,271	1,136	3,327	1,664	4,339	2,169
Jack, crevalle	186	279	272	408	156	234	206	309	820	1,230	1,554	2,330
King mackerel	--	--	--	--	--	--	--	--	--	--	296	2,368
King whiting	1,536	1,155	1,016	760	1,198	898	1,445	1,084	5,195	3,897	17,766	13,325
Little tuna	--	--	--	--	--	--	--	--	--	--	168	1,091
Mojarra	--	--	--	--	--	--	--	--	--	--	157	78
Mullet	--	--	1,496	1,496	--	--	--	--	1,496	1,496	3,016	3,016
Pigfish	258	69	5,408	1,352	102	26	361	90	6,129	1,537	10,834	2,713
Pinfish	2,301	570	1,904	480	24	6	4,128	1,032	8,357	2,088	37,107	9,275
Pompano	--	--	24	16	78	40	--	--	102	56	618	313
Puffers	3,216	1,608	536	272	--	--	52	26	3,804	1,906	41,277	20,642
Rays	351	351	288	288	--	--	52	52	691	691	1,404	1,404
Sea bass, black	--	--	24	24	--	--	--	--	24	24	1,358	1,358
Sea bass, rock	--	--	40	8	--	--	--	--	40	8	431	105
Sea robin	--	--	--	--	--	--	--	--	--	--	218	54
Sea trout, spotted	1,281	2,247	520	912	--	--	33,336	58,338	35,137	61,497	44,203	77,363
Sea trout, other	--	--	24	24	--	--	--	--	24	24	24,309	24,309
Sharks	--	--	--	--	--	--	--	--	--	--	106	371
Sheepshead	114	141	1,016	1,272	102	128	2,425	3,031	3,657	4,572	9,084	11,356
Snapper, red	--	--	--	--	--	--	--	--	--	--	1,056	8,448
Snapper, mangrove	312	165	312	160	24	12	52	26	700	363	1,810	917
Snapper, other	--	--	--	--	--	--	--	--	--	--	63	189
Spadefish	--	--	496	248	78	40	--	--	574	288	4,111	2,056
Spot	3,303	1,659	2,776	1,392	--	--	--	--	6,079	3,051	9,383	4,702
Tenpounder	--	--	312	312	--	--	--	--	312	312	1,260	1,260
Triggerfish	--	--	--	--	--	--	--	--	--	--	138	345
Yellowtail	957	240	40	8	102	26	--	--	1,099	274	14,153	3,536
Unclassified fish	423	111	272	64	--	--	2,890	722	3,585	897	13,855	3,464
Total	18,291	11,934	20,672	13,280	2,984	2,580	50,056	69,819	92,003	97,613	284,037	252,888

Table 48.--Estimated sport fishery catch, Cape Canaveral Area; October 1963, in numbers of fish and weight in pounds, by section, by facility, by species

Species	Southern Section									
	Bridges and causeways		Ocean piers		Port Canaveral inside		Port Canaveral outside		Subtotal	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Amberjack	--	--	--	--	--	--	69	1,035	69	1,035
Barracuda	--	--	--	--	--	--	--	--	--	--
Bluefish	--	--	45	67	56	84	--	--	101	151
Cabio	--	--	--	--	--	--	53	477	53	477
Catfish	1,814	1,771	654	654	992	992	--	--	3,460	3,417
Croaker	2,267	1,133	--	--	668	334	--	--	2,935	1,467
Drum, black	348	4,785	263	3,616	940	12,925	--	--	1,551	21,326
Drum, red	--	--	--	--	228	456	--	--	228	456
Flounders	--	--	--	--	98	122	--	--	98	122
Groupers	--	--	--	--	45	450	191	1,910	236	2,360
Grunts	116	58	--	--	--	--	--	--	116	58
Jack, crevalle	--	--	--	--	243	364	--	--	243	364
Jack, other	--	--	--	--	280	280	--	--	280	280
King whiting	4,091	3,068	2,061	1,546	675	506	--	--	6,827	5,120
Little tuna	--	--	--	--	--	--	15	97	15	97
Mojarra	--	--	--	--	2,638	1,319	--	--	2,638	1,319
Mullet	748	748	--	--	--	--	--	--	748	748
Pigfish	1,148	287	--	--	--	--	--	--	1,148	287
Pinfish	13,207	3,302	436	19	1,090	272	--	--	14,733	3,593
Pompano	--	--	354	177	56	28	--	--	410	205
Puffers	5,330	2,665	45	22	--	--	--	--	5,375	2,687
Rays	57	57	--	--	--	--	--	--	57	57
Sea bass, black	--	--	--	--	--	--	84	84	84	84
Sea bass, rock	--	--	--	--	--	--	--	--	--	--
Sea trout, spotted	5,467	9,567	--	--	--	--	--	--	5,467	9,567
Sea trout, other	27,588	27,588	127	190	260	260	--	--	27,975	28,038
Sheepshead	2,324	2,905	654	817	802	1,002	--	--	3,780	4,724
Snapper, red	--	--	--	--	--	--	4,479	35,832	4,479	35,832
Snapper, mangrove	--	--	--	--	232	116	--	--	232	116
Snapper, other	--	--	45	135	--	--	53	159	98	294
Spadefish	963	481	--	--	277	138	--	--	1,240	619
Spanish mackerel	--	--	--	--	183	320	--	--	183	320
Spot	244	122	45	22	56	28	--	--	345	172
Tenpounder	--	--	--	--	--	--	--	--	--	--
Yellowtail	2,626	656	--	--	158	39	--	--	2,784	695
Unclassified fish	3,064	766	--	--	591	148	--	--	3,655	914
Total	71,402	59,959	4,729	7,265	10,568	20,183	4,944	39,594	91,643	127,001

Species	Northern Section										Combined total	
	Bank fishery		Bridges		Surf areas		Boat fishery		Subtotal			
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Amberjack	--	--	--	--	--	--	--	--	--	--	69	1,035
Barracuda	--	--	152	1,216	--	--	--	--	152	1,216	152	1,216
Bluefish	--	--	--	--	154	232	--	--	154	232	255	383
Cabio	--	--	--	--	--	--	--	--	--	--	53	477
Catfish	1,716	1,716	--	--	--	--	--	--	1,716	1,716	5,176	5,133
Croaker	--	--	--	--	--	--	211	106	211	106	3,146	1,573
Drum, black	87	129	--	--	780	1,170	6,074	9,111	6,941	10,410	8,492	31,736
Drum, red	816	1,632	--	--	--	--	8,927	17,854	9,743	19,486	9,971	19,942
Flounders	--	--	--	--	--	--	--	--	--	--	98	122
Groupers	--	--	152	80	--	--	--	--	152	80	388	2,440
Grunts	237	117	1,224	608	--	--	--	--	1,461	725	1,577	783
Jack, crevalle	--	--	--	--	--	--	211	316	211	316	454	680
Jack, other	--	--	--	--	--	--	--	--	--	--	280	280
King whiting	171	129	312	232	2,174	1,630	1,162	872	3,819	2,863	10,646	7,983
Little tuna	--	--	--	--	--	--	--	--	--	--	15	97
Mojarra	--	--	--	--	--	--	--	--	--	--	2,638	1,319
Mullet	--	--	--	--	--	--	--	--	--	--	748	748
Pigfish	--	--	3,776	944	154	38	3,275	819	7,205	1,801	8,353	2,088
Pinfish	--	--	8,016	2,000	1,242	310	33,753	8,438	43,011	10,748	57,744	14,341
Pompano	--	--	--	--	--	--	--	--	--	--	410	205
Puffers	8,202	4,110	152	80	--	--	2,800	1,400	11,154	5,590	16,529	8,277
Rays	--	--	--	--	--	--	--	--	--	--	57	57
Sea bass, black	--	--	--	--	--	--	--	--	--	--	84	84
Sea bass, rock	--	--	152	40	--	--	--	--	152	40	152	40
Sea trout, spotted	2,850	4,986	--	--	--	--	27,414	47,974	30,264	52,960	35,731	62,527
Sea trout, other	--	--	--	--	--	--	--	--	--	--	27,975	28,038
Sheepshead	321	402	600	752	462	578	6,814	8,518	8,197	10,250	11,977	14,974
Snapper, red	--	--	--	--	--	--	--	--	--	--	4,479	35,832
Snapper, mangrove	--	--	--	--	--	--	211	106	211	106	443	222
Snapper, other	--	--	--	--	--	--	--	--	--	--	98	294
Spadefish	--	--	152	80	--	--	--	--	152	80	1,392	699
Spanish mackerel	--	--	--	--	--	--	--	--	--	--	183	320
Spot	--	--	752	376	308	154	--	--	1,060	530	1,405	702
Tenpounder	--	--	--	--	--	--	1,637	1,637	1,637	1,637	1,637	1,637
Yellowtail	2,778	693	--	--	--	--	5,863	1,466	8,641	2,159	11,425	2,854
Unclassified fish	--	--	10,440	2,608	1,396	348	--	--	11,836	2,956	15,491	3,870
Total	17,178	13,914	25,880	9,016	6,670	4,460	98,352	98,617	148,080	126,007	239,723	253,008

Table 49.--Estimated sport fishery catch, Cape Canaveral Area; spring 1963, in numbers of fish and weight in pounds, by section, by facility, by species

Species	Southern Section											
	Bridges and causeways		Ocean piers		Port Canaveral inside		Port Canaveral outside		Boat fishery		Subtotal	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Amberjack	--	--	--	--	--	--	198	2,970	--	--	198	2,970
Black margate	--	--	2,524	2,524	--	--	--	--	--	--	2,524	2,524
Bluefish	6,206	9,308	730	1,094	9,139	13,708	122	183	278	417	16,475	24,710
Catfish	21,016	20,876	24,239	24,239	1,078	1,078	--	--	6,233	6,233	52,566	52,426
Croaker	278	139	--	--	3,762	1,880	82	41	800	400	4,922	2,460
Cutlassfish	--	--	--	--	1,976	2,470	--	--	--	--	1,976	2,470
Dolphin	--	--	--	--	--	--	26	208	--	--	26	208
Drum, black	2,716	37,345	35	481	259	3,561	--	--	--	--	3,010	41,387
Drum, red	--	--	--	--	72	144	--	--	3,709	7,418	3,781	7,562
Eels	--	--	--	--	25	50	--	--	--	--	25	50
Flounders	--	--	--	--	2,491	3,113	--	--	--	--	2,491	3,113
Groupers	--	--	--	--	84	840	275	2,750	--	--	359	3,590
Grunts	--	--	--	--	72	36	86	43	--	--	158	79
Jack, crevalle	803	1,204	596	893	1,605	2,408	66	98	54	81	3,124	4,682
Jack, other	--	--	--	--	510	510	--	--	--	--	510	510
King mackerel	--	--	--	--	311	2,488	637	5,096	--	--	948	7,584
King whiting	7,787	5,839	4,052	3,038	1,436	1,076	53	40	2,882	2,161	16,210	12,154
Little tuna	--	--	--	--	--	--	136	884	--	--	136	884
Mojarra	--	--	42	21	187	93	--	--	--	--	229	114
Mullet	131	131	--	--	283	283	--	--	--	--	414	414
Pigfish	8,887	2,222	--	--	--	--	15	4	--	--	8,902	2,226
Pinfish	14,975	3,743	487	121	10,727	2,681	--	--	--	--	26,189	6,545
Pompano	1,159	579	--	--	218	109	--	--	--	--	1,377	688
Porgies	--	--	--	--	--	--	86	172	--	--	86	172
Puffers	82,880	41,440	149	74	245	122	--	--	7,033	3,517	90,307	45,153
Rays	499	499	--	--	--	--	--	--	54	54	553	553
Sea bass, black	--	--	--	--	25	25	2,844	2,844	--	--	2,869	2,869
Sea bass, rock	--	--	--	--	--	--	--	--	--	--	--	--
Sea robin	--	--	--	--	58	14	--	--	--	--	58	14
Sea trout, spotted	85,729	150,025	280	490	320	560	53	93	25,451	44,539	111,833	195,707
Sea trout, other	57,929	57,929	149	149	966	966	--	--	--	--	59,044	59,044
Sharks	--	--	--	--	1,342	4,697	41	143	--	--	1,383	4,840
Sheepshead	8,080	10,100	149	186	784	980	13	16	702	878	9,728	12,160
Snapper, red	--	--	--	--	--	--	1,041	8,328	--	--	1,041	8,328
Snapper, mangrove	655	327	--	--	84	42	--	--	278	139	1,017	508
Snapper, other	--	--	--	--	141	423	383	1,149	--	--	524	1,572
Spadefish	187	93	89	44	--	--	--	--	--	--	276	137
Spanish mackerel	--	--	42	73	17	30	--	--	--	--	59	103
Spot	187	93	387	193	3,835	1,917	--	--	--	--	4,409	2,203
Tenpounder	1,121	1,121	--	--	--	--	--	--	--	--	1,121	1,121
Triggerfish	--	--	--	--	--	--	54	135	--	--	54	135
Yellowtail	20,626	5,156	--	--	--	--	--	--	--	--	20,626	5,156
Unclassified fish	22,033	5,508	42	10	817	204	--	--	13,955	3,489	36,847	9,211
Total	343,884	353,677	32,992	33,830	42,869	46,500	6,211	25,197	61,429	69,326	488,385	528,336

Species	Northern Section											
	Bank fishery		Bridges		Surf areas		Boat fishery		Subtotal		Combined total	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Amberjack	--	--	--	--	--	--	--	--	--	--	198	2,970
Black margate	--	--	--	--	--	--	--	--	--	--	2,524	2,524
Bluefish	17,046	25,578	29,512	44,272	5,614	8,422	1,326	1,988	53,498	80,260	69,973	104,970
Catfish	3,792	3,549	5,032	4,992	10,558	10,440	4,796	4,724	24,178	23,705	76,744	76,131
Croaker	234	108	784	392	--	--	--	--	1,018	500	5,940	2,960
Cutlassfish	--	--	--	--	--	--	--	--	--	--	1,976	2,470
Dolphin	--	--	--	--	--	--	--	--	--	--	26	208
Drum, black	6,489	9,741	--	--	7,028	10,542	2,206	3,306	15,723	23,591	18,733	64,978
Drum, red	--	--	624	1,248	96	192	747	1,494	1,467	2,934	5,248	10,496
Eels	--	--	--	--	--	--	--	--	--	--	25	50
Flounders	--	--	--	--	--	--	128	160	128	160	2,619	3,273
Groupers	--	--	624	312	--	--	--	--	624	312	983	3,902
Grunts	--	--	672	336	--	--	--	--	672	336	830	415
Jack, crevalle	1,029	1,542	1,816	2,728	136	204	637	956	3,618	5,430	6,742	10,112
Jack, other	--	--	--	--	--	--	--	--	--	--	510	510
King mackerel	--	--	272	2,176	--	--	--	--	272	2,176	1,220	9,760
King whiting	2,328	1,746	3,504	3,624	12,238	9,178	2,629	1,972	20,699	15,520	36,909	27,674
Little tuna	--	--	--	--	--	--	--	--	--	--	136	884
Mojarra	--	--	--	--	--	--	--	--	--	--	229	114
Mullet	--	--	--	--	--	--	--	--	--	--	414	414
Pigfish	--	--	3,240	808	--	--	790	198	4,030	1,006	12,932	3,232
Pinfish	3,438	858	31,752	7,936	1,124	282	4,228	1,057	40,542	10,133	66,731	16,678
Pompano	--	--	312	160	220	110	--	--	532	270	1,909	958
Porgies	--	--	--	--	--	--	--	--	--	--	86	172
Puffers	48,807	24,402	864	432	96	48	246	123	50,013	25,005	140,320	70,158
Rays	366	366	232	232	96	96	288	288	982	982	1,535	1,535
Sea bass, black	--	--	1,720	1,720	--	--	--	--	1,720	1,720	4,589	4,589
Sea bass, rock	--	--	5,320	1,328	--	--	--	--	5,320	1,328	5,320	1,328
Sea robin	--	--	72	16	--	--	--	--	72	16	130	30
Sea trout, spotted	33,357	40,005	1,536	2,688	102	178	76,206	136,861	102,701	179,732	214,534	375,439
Sea trout, other	--	--	--	--	--	--	--	--	--	--	59,044	59,044
Sharks	--	--	72	256	102	356	--	--	174	612	1,557	5,452
Sheepshead	504	612	10,696	13,376	180	224	10,434	13,043	21,814	27,255	31,542	39,415
Snapper, red	--	--	--	--	--	--	--	--	--	--	1,041	8,328
Snapper, mangrove	--	--	592	296	--	--	--	--	592	296	1,609	804
Snapper, other	--	--	--	--	--	--	--	--	--	--	524	1,572
Spadefish	--	--	4,224	2,112	--	--	--	--	4,224	2,112	4,500	2,249
Spanish mackerel	--	--	--	--	84	148	--	--	84	148	143	251
Spot	864	432	904	456	166	84	410	205	2,344	1,177	6,753	3,380
Tenpounder	186	186	--	--	--	--	893	893	1,079	1,079	2,200	2,200
Triggerfish	--	--	--	--	--	--	--	--	--	--	54	135
Yellowtail	3,402	846	2,176	544	96	24	--	--	5,674	1,414	26,300	6,570
Unclassified fish	810	198	3,128	784	166	42	1,202	300	5,306	1,324	42,153	10,535
Total	112,152	110,169	109,680	92,224	38,102	40,570	109,166	167,570	369,100	410,533	857,485	938,869

Table 50.--Estimated sport fishery catch, Cape Canaveral Area; summer 1963, in numbers of fish and weight in pounds, by section, by facility, by species

Species	Southern Section									
	Bridges and causeways		Ocean piers		Port Canaveral inside		Port Canaveral outside		Subtotal	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Amberjack	--	--	--	--	--	--	601	9,015	601	9,015
Barracuda	--	--	--	--	573	4,584	69	552	642	5,136
Black margate	--	--	2,263	2,263	530	530	102	102	2,895	2,895
Bluefish	61	92	74	111	56	84	39	58	230	345
Cabio	--	--	--	--	--	--	145	1,305	145	1,305
Catfish	24,188	23,857	5,224	5,519	484	466	10	10	29,906	29,852
Croaker	2,249	1,123	5,366	2,682	13,540	6,769	385	192	21,540	10,766
Cutlassfish	--	--	--	--	1,047	1,308	--	--	1,047	1,308
Dolphin	--	--	--	--	--	--	433	3,464	433	3,464
Drum, black	928	12,760	307	4,221	1,896	26,070	15	206	3,146	43,257
Drum, red	605	1,210	--	--	74	148	--	--	679	1,358
Eels	--	--	--	--	8	16	--	--	8	16
Flounders	69	86	269	380	1,194	1,492	29	35	1,561	1,993
Groupers	--	--	--	--	--	--	226	2,260	226	2,260
Grunts	1,350	674	231	115	2,840	1,419	--	--	4,421	2,208
Jack, crevalle	912	1,368	168	252	389	583	37	55	1,506	2,258
Jack, other	--	--	--	--	97	97	--	--	97	97
King mackerel	--	--	--	--	--	--	1,701	13,608	1,701	13,608
King whiting	24,528	18,395	9,426	7,069	2,471	1,853	10	7	36,435	27,324
Little tuna	--	--	16	104	342	2,223	689	4,478	1,047	6,805
Mojarra	--	--	--	--	471	235	--	--	471	235
Mullet	4,820	4,820	--	--	212	212	--	--	5,032	5,032
Pigfish	1,761	441	50	12	851	212	--	--	2,662	665
Pinfish	35,749	8,937	1,054	263	18,576	4,644	376	94	55,755	13,938
Pompano	424	211	51	25	40	20	--	--	515	256
Puffers	29,485	14,742	67	33	20	10	--	--	29,572	14,785
Rays	551	551	16	16	36	36	--	--	603	603
Sea bass, black	--	--	26	26	117	117	6,019	6,019	6,162	6,162
Sea bass, rock	--	--	177	44	144	36	61	15	382	95
Sea robin	--	--	290	72	--	--	--	--	290	72
Sea trout, spotted	20,289	35,505	228	399	164	286	10	17	20,691	36,207
Sea trout, other	47,029	47,029	32	32	64	64	49	49	47,174	47,174
Sharks	100	349	367	1,284	51	178	58	203	576	2,014
Sheepshead	10,674	13,342	444	555	3,553	4,441	126	157	14,797	18,495
Snapper, red	--	--	--	--	38	304	3,298	26,384	3,336	26,688
Snapper, mangrove	1,316	657	--	--	598	299	--	--	1,914	956
Snapper, other	--	--	25	75	--	--	474	1,422	499	1,497
Spadefish	2,860	1,429	955	477	717	358	24	12	4,556	2,276
Spanish mackerel	--	--	--	--	--	--	83	145	83	145
Spot	2,632	1,316	4,518	2,258	9,973	4,985	10	5	17,133	8,564
Tenpounder	902	902	--	--	--	--	43	43	945	945
Yellowtail	23,584	5,895	326	82	51	13	--	--	23,961	5,990
Unclassified fish	9,109	2,277	3,860	964	2,452	613	--	--	15,421	3,854
Total	246,175	197,968	35,830	29,333	63,669	64,705	15,122	69,912	360,796	361,918

Species	Northern Section										Combined total	
	Bank fishery		Bridges		Surf areas		Boat fishery		Subtotal			
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Amberjack	--	--	--	--	--	--	--	--	--	--	601	9,015
Barracuda	--	--	--	--	--	--	--	--	--	--	642	5,136
Black margate	--	--	--	--	--	--	--	--	--	--	2,895	2,895
Bluefish	18	27	344	512	266	398	58	87	686	1,024	916	1,369
Cabio	--	--	--	--	--	--	--	--	--	--	145	1,305
Catfish	6,483	6,402	6,016	5,992	5,108	5,102	2,383	2,374	19,990	19,870	49,896	49,722
Croaker	2,073	1,026	912	456	690	344	664	332	4,339	2,158	25,879	12,924
Cutlassfish	--	--	88	112	--	--	--	--	88	112	1,135	1,420
Dolphin	--	--	--	--	--	--	--	--	--	--	433	3,464
Drum, black	390	582	264	392	418	626	975	1,462	2,047	3,062	5,193	46,319
Drum, red	90	180	312	624	172	344	1,078	2,156	1,652	3,304	2,331	4,662
Eels	--	--	96	192	--	--	--	--	96	192	104	208
Flounders	--	--	64	80	118	148	173	216	355	444	1,916	2,437
Groupers	252	117	144	80	--	--	115	58	511	255	737	2,515
Grunts	489	243	424	208	46	24	--	--	959	475	5,380	2,683
Jack, crevalle	387	579	904	1,352	86	128	816	1,224	2,193	3,283	3,699	5,541
Jack, other	--	--	--	--	--	--	--	--	--	--	97	97
King mackerel	--	--	--	--	--	--	--	--	--	--	1,701	13,608
King whiting	2,370	1,767	4,288	3,216	4,140	3,106	1,624	1,217	12,422	9,306	48,857	36,630
Little tuna	--	--	--	--	--	--	--	--	--	--	1,047	6,805
Mojarra	--	--	--	--	--	--	--	--	--	--	471	235
Mullet	--	--	48	48	--	--	73	73	121	121	5,153	5,153
Pigfish	2,733	684	4,248	1,056	--	--	696	174	7,677	1,914	10,339	2,579
Pinfish	16,122	4,035	16,744	4,184	232	56	3,328	832	36,426	9,107	92,181	23,045
Pompano	90	36	56	32	172	86	37	18	355	172	870	428
Puffers	18,567	9,282	344	168	--	--	444	222	19,355	9,672	48,927	24,457
Rays	132	132	256	256	22	22	--	--	410	410	1,013	1,013
Sea bass, black	198	198	440	440	--	--	95	95	733	733	6,895	6,895
Sea bass, rock	--	--	328	80	--	--	37	9	365	89	747	184
Sea robin	--	--	176	48	--	--	--	--	176	48	466	120
Sea trout, spotted	4,710	8,247	1,552	2,712	--	--	75,119	131,459	81,381	142,418	102,072	178,625
Sea trout, other	177	177	--	--	--	--	--	--	177	177	47,351	47,351
Sharks	54	186	80	280	54	188	173	606	361	1,260	937	3,274
Sheepshead	2,412	3,006	3,064	3,824	518	648	3,125	3,906	9,119	11,384	23,916	29,879
Soapper, red	--	--	--	--	--	--	--	--	--	--	3,336	26,688
Snapper, mangrove	177	87	608	312	22	12	131	65	938	476	2,852	1,432
Snapper, other	36	108	--	--	--	--	--	--	36	108	535	1,605
Spadefish	264	132	1,768	880	260	130	--	--	2,292	1,142	6,848	3,418
Spanish mackerel	--	--	--	--	--	--	--	--	--	--	83	145
Spot	2,718	1,347	10,320	5,152	98	48	183	92	13,319	6,639	30,452	15,203
Tenpounder	414	414	248	248	86	86	413	413	1,161	1,161	2,106	2,106
Yellowtail	2,817	714	384	96	46	12	173	43	3,420	865	27,381	6,855
Unclassified fish	1,386	336	2,912	728	86	22	1,512	378	5,896	1,464	21,317	5,318
Total	65,559	40,044	57,432	33,760	12,640	11,530	93,425	147,511	229,056	232,845	589,852	594,763

Table 51.--Estimated sport fishery catch, Cape Canaveral Area; fall 19[illegible], in number of fish and weight in pounds, by section, by facility, by species

Species	Southern Section									
	Bridges and causeways		Ocean piers		Port Canaveral inside		Port Canaveral outside		Subtotal	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Amberjack	--	--	--	--	--	--	104	1,552	104	1,552
Barracuda	--	--	--	--	--	--	--	--	--	--
Black margate	--	--	1,562	1,562	1,[illegible]58	1,[illegible]58	--	--	[illegible],620	[illegible],620
Bluefish	--	--	1,[illegible]92	1,[illegible]36	1[illegible]5	158	--	--	1,397	[illegible],094
Cabio	--	--	--	--	--	--	108	972	108	972
Catfish	[illegible]0,456	[illegible]9,219	[illegible],23[illegible]	5,116	[illegible],93[illegible]	[illegible],910	--	--	30,617	37,545
Croaker	5,569	[illegible],793	166	8[illegible]	[illegible],154	1,[illegible]77	--	--	7,909	[illegible],952
Cutlassfish	--	--	316	[illegible]96	[illegible]1	[illegible]6	--	--	[illegible]37	[illegible]33
Dolphin	--	--	--	--	--	--	153	1,224	153	1,224
Drum, black	1,557	21,408	663	[illegible],116	1,[illegible]56	22,688	--	--	3,870	[illegible]3,212
Drum, red	272	543	--	--	[illegible]8[illegible]	759	--	--	[illegible]6[illegible]	1,[illegible]02
Eels	--	--	--	--	[illegible]8	75	--	--	[illegible]8	75
Flounders	--	--	[illegible]06	[illegible]96	[illegible]99	[illegible]72	[illegible]5	9	51[illegible]	637
Groupers	--	--	--	--	[illegible]8	[illegible]7[illegible]	[illegible]82	3,825	45[illegible]	4,500
Grunts	[illegible]92	44[illegible]	--	--	[illegible]87	[illegible]04	412	[illegible]06	1,[illegible]91	546
Jack, crevalle	[illegible]52	[illegible]76	[illegible]16	[illegible]04	518	[illegible]76	80	118	1,466	[illegible],196
Jack, other	--	--	--	--	42	[illegible]20	--	--	420	420
King mackerel	--	--	--	--	87	[illegible]96	[illegible]57	2,856	444	[illegible],552
King whiting	[illegible]8,336	16,[illegible]52	[illegible],434	[illegible],076	1,[illegible]26	[illegible]94	--	--	[illegible],996	21,822
Little tuna	--	--	--	--	53	[illegible]4[illegible]	[illegible]22	1,442	[illegible]75	1,782
Mojarra	--	--	--	--	[illegible],19[illegible]	[illegible],996	--	--	[illegible],193	[illegible],996
Mullet	3,364	[illegible],364	--	--	[illegible]8	[illegible]8	--	--	3,402	[illegible],402
Pigfish	[illegible],310	[illegible],078	--	--	470	117	--	--	8,780	[illegible],195
Pinfish	[illegible]9,776	14,944	[illegible]79[illegible]	[illegible]6[illegible]	[illegible],[illegible]52	1,[illegible]8[illegible]	--	--	[illegible]5,[illegible]35	[illegible]6,[illegible]62
Pompano	--	--	1,[illegible]38	615	15[illegible]	78	--	--	1,390	693
Puffers	[illegible],204	[illegible]2,[illegible]02	[illegible]60	[illegible]3	--	--	--	--	[illegible],272	[illegible]2,135
Rays	1,[illegible]04	1,[illegible]8[illegible]	--	--	[illegible]5	[illegible]4	--	--	1,155	1,154
Sea bass, black	--	--	--	--	[illegible]3	[illegible]2	[illegible],[illegible]74	[illegible],074	[illegible],127	[illegible],126
Sea bass, rock	--	--	440	110	147	[illegible]6	--	--	587	146
Sea robin	--	--	[illegible]90	[illegible]7[illegible]	[illegible]8	[illegible]4	--	--	[illegible]28	81
Sea trout, spotted	1,324	37,217	--	--	47[illegible]	[illegible]2[illegible]	--	--	[illegible],800	[illegible]8,149
Sea trout, other	77,757	77,757	190	[illegible]8[illegible]	[illegible]4[illegible]	[illegible]4[illegible]	--	--	78,390	78,485
Sharks	--	--	--	--	147	514	12	42	159	556
Sheepshead	10,462	13,078	1,[illegible]83	1,253	[illegible],[illegible]65	[illegible],830	--	--	13,810	17,261
Snapper, red	--	--	--	--	--	--	[illegible],302	66,420	[illegible],302	66,420
Snapper, mangrove	818	408	--	--	1,1[illegible]6	[illegible]68	--	--	[illegible].014	1,005
Snapper, other	--	--	[illegible]8	[illegible]0[illegible]	[illegible]1	[illegible]2	153	459	242	724
Spadefish	5,[illegible]78	[illegible],838	[illegible]0[illegible]	102	1,[illegible]83	[illegible]40	--	--	7,167	3,580
Spanish mackerel	--	--	--	--	[illegible]75	480	--	--	[illegible]75	480
Spot	[illegible],[illegible]38	1,[illegible]18	[illegible]6[illegible]	[illegible]1	[illegible],1[illegible]6	1,[illegible]53	--	--	5,474	[illegible],734
Tenpounder	1,179	1,179	[illegible]0[illegible]	[illegible]0[illegible]	[illegible]4	[illegible]4	--	--	1,423	1,423
Triggerfish	--	--	--	--	--	--	[illegible]07	518	207	518
Yellowtail	[illegible]3,460	5,864	[illegible]9	[illegible]2	[illegible]85[illegible]	[illegible]8[illegible]	--	--	[illegible]3,757	5,936
Unclassified fish	17,60[illegible]	4,401	[illegible],055	513	1,[illegible]15	[illegible]04	12	[illegible]	[illegible]0,888	[illegible],221
Total	359,992	270,547	21,[illegible]25	26,460	31,124	44,687	1[illegible],586	[illegible]1,720	[illegible]25,527	[illegible]3,414

Species	Northern Section											
	Bank fishery		Bridges		Surf areas		Boat fishery		Subtotal		Combined total	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Amberjack	--	--	--	--	--	--	--	--	--	--	104	1,552
Barracuda	--	--	224	1,824	--	--	--	--	224	1,824	224	1,824
Black margate	--	--	--	--	--	--	--	--	--	--	[illegible],620	[illegible],620
Bluefish	--	--	1[illegible]	[illegible]88	384	576	--	--	576	864	1,973	[illegible],958
Cabio	--	--	--	--	--	--	--	--	--	--	108	972
Catfish	4,773	4,773	1,[illegible]40	1,[illegible]24	1,564	1,304	1,316	1,316	[illegible],293	[illegible],217	47,910	46,762
Croaker	[illegible],[illegible]94	1,638	496	[illegible]40	--	--	549	276	4,339	[illegible],154	12,248	6,106
Cutlassfish	--	--	[illegible]20	896	--	--	--	--	720	896	1,057	1,318
Dolphin	--	--	--	--	--	--	--	--	--	--	153	1,224
Drum, black	[illegible]29	[illegible]92	64	96	1,[illegible]52	1,876	[illegible]0,659	[illegible]5,[illegible]88	[illegible]2,[illegible]04	[illegible]8,[illegible]52	15,974	[illegible]1,364
Drum, red	1,809	[illegible],[illegible]8	432	864	--	--	[illegible]4,474	[illegible]0,[illegible]47	16,[illegible]15	[illegible]3,[illegible]29	17,367	34,731
Eels	--	--	[illegible]20	[illegible]40	--	--	--	--	[illegible]20	[illegible]40	158	[illegible]15
Flounders	--	--	[illegible]12	[illegible]04	[illegible]0	[illegible]02	--	--	[illegible]92	[illegible]86	905	1,123
Groupers	--	--	[illegible]20	[illegible]68	--	--	[illegible]78	[illegible]39	[illegible]98	[illegible]07	[illegible]48	[illegible],[illegible]07
Grunts	[illegible]57	[illegible]77	[illegible],[illegible]24	1,[illegible]04	--	--	[illegible],[illegible]40[illegible]	1,[illegible]04	7,[illegible]87	[illegible],[illegible]85	[illegible],[illegible]78	[illegible],[illegible]31
Jack, crevalle	[illegible]79	[illegible]17	[illegible]4[illegible]	[illegible]68	[illegible]34	[illegible]52	[illegible]26	[illegible]38	1,[illegible]47	[illegible],[illegible]15	[illegible],013	[illegible],[illegible]11
Jack, other	--	--	--	--	--	--	--	--	--	--	420	420
King mackerel	--	--	--	--	--	--	--	--	--	--	444	[illegible],[illegible]52
King whiting	[illegible],[illegible]53	1,[illegible]80	1,[illegible]92	1,[illegible]88	[illegible],[illegible]58	[illegible],[illegible]92	[illegible],[illegible]10	[illegible],[illegible]34	13,[illegible]13	10,134	[illegible]2,609	[illegible]1,[illegible]56
Little tuna	--	--	--	--	--	--	--	--	--	--	[illegible]75	1,[illegible]82
Mojarra	--	--	--	--	--	--	--	--	--	--	4,193	[illegible],[illegible]96
Mullet	--	--	[illegible],[illegible]40	[illegible],[illegible]40	--	--	--	--	[illegible],[illegible]40	[illegible],[illegible]40	[illegible],[illegible]42	[illegible],[illegible]42
Pigfish	[illegible]3[illegible]	111	13,[illegible]76	[illegible]3,[illegible]40	384	96	[illegible],[illegible]54	1,[illegible]64	[illegible]0,[illegible]10	[illegible],[illegible]11	[illegible]8,[illegible]90	[illegible],[illegible]06
Pinfish	[illegible],[illegible]41	[illegible]46	14,[illegible]80	[illegible],[illegible]20	1,[illegible]00	[illegible]74	[illegible]6,[illegible]22	14,[illegible]05	[illegible]7,[illegible]43	[illegible]9,[illegible]45	[illegible]42,[illegible]68	[illegible]5,[illegible]14
Pompano	--	--	[illegible]32	[illegible]24	[illegible]16	[illegible]60	--	--	[illegible]48	[illegible]84	1,[illegible]38	[illegible]77
Puffers	17,[illegible]36	[illegible],[illegible]77	1,[illegible]32	[illegible]28	--	--	[illegible],[illegible]78	[illegible],[illegible]39	[illegible]2,[illegible]46	11,[illegible]44	[illegible]6,[illegible]18	[illegible]3,[illegible]79
Rays	[illegible]37	[illegible]37	[illegible]32	[illegible]32	--	--	[illegible]8	[illegible]8	1,[illegible]47	1,[illegible]47	[illegible],[illegible]02	[illegible],[illegible]01
Sea bass, black	--	--	[illegible]2	[illegible]2	--	--	--	--	[illegible]2	[illegible]2	[illegible],[illegible]59	[illegible],[illegible]58
Sea bass, rock	--	--	[illegible]88	[illegible]2	--	--	--	--	[illegible]88	[illegible]72	[illegible]75	[illegible]18
Sea robin	--	--	--	--	--	--	--	--	--	--	[illegible]28	[illegible]1
Sea trout, spotted	[illegible],[illegible]89	10,[illegible]27	[illegible]84	1,[illegible]68	--	--	[illegible]1,[illegible]25	[illegible]59,[illegible]68	[illegible]8,[illegible]98	[illegible]71,[illegible]63	[illegible]19,[illegible]98	[illegible]09,[illegible]12
Sea trout, other	--	--	[illegible]2	[illegible]2	--	--	--	--	[illegible]2	[illegible]2	[illegible]8,[illegible]22	[illegible]8,[illegible]17
Sharks	--	--	--	--	--	--	--	--	--	--	[illegible]59	[illegible]56
Sheepshead	[illegible]54	[illegible]07	[illegible],[illegible]24	[illegible],[illegible]40	[illegible]46	1,[illegible]60	[illegible]3,[illegible]58	[illegible]7,[illegible]24	[illegible]7,[illegible]82	[illegible]2,[illegible]31	[illegible]1,[illegible]92	[illegible]9,[illegible]92
Snapper, red	--	--	--	--	--	--	--	--	--	--	[illegible],[illegible]02	66,[illegible]20
Snapper, mangrove	[illegible]77	[illegible]49	[illegible]64	[illegible]40	[illegible]6	[illegible]8	[illegible]94	[illegible]98	1,[illegible]71	[illegible]05	[illegible],[illegible]85	1,[illegible]10
Snapper, other	--	--	--	--	--	--	--	--	--	--	[illegible]42	[illegible]24
Spadefish	--	--	[illegible]76	[illegible]96	[illegible]16	60	--	--	1,[illegible]92	556	8,[illegible]59	[illegible],[illegible]36
Spanish mackerel	--	--	--	--	--	--	--	--	--	--	[illegible]75	[illegible]80
Spot	[illegible],[illegible]65	[illegible],[illegible]90	[illegible],[illegible]96	[illegible],[illegible]56	[illegible]62	[illegible]32	--	--	10,[illegible]23	[illegible],[illegible]78	16,[illegible]97	[illegible],[illegible]12
Tenpounder	--	--	[illegible]54	[illegible]64	--	--	[illegible],[illegible]56	[illegible],[illegible]56	[illegible],[illegible]20	[illegible],[illegible]20	[illegible],[illegible]43	[illegible],[illegible]43
Triggerfish	--	--	--	--	--	--	--	--	--	--	[illegible]07	[illegible]18
Yellowtail	5,601	1,[illegible]01	64	16	152	[illegible]0	8,794	[illegible],[illegible]99	14,611	[illegible],[illegible]56	[illegible]8,[illegible]68	[illegible],[illegible]92
Unclassified fish	[illegible]45	[illegible]77	16,[illegible]54	[illegible],[illegible]08	[illegible],[illegible]94	[illegible]22	[illegible],[illegible]35	1,[illegible]83	[illegible]3,[illegible]38	[illegible],[illegible]90	[illegible]4,[illegible]26	[illegible]1,[illegible]11
Total	[illegible]3,[illegible]35	[illegible]8,[illegible]57	[illegible]9,[illegible]24	[illegible]3,[illegible]32	[illegible]4,[illegible]78	[illegible]0,[illegible]65	[illegible]22,[illegible]12	[illegible]52,[illegible]56	[illegible]60,[illegible]49	[illegible]35,[illegible]09	[illegible]85,[illegible]76	[illegible]58,[illegible]23

In table 52 and figure 13 is shown estimated sport fishery catch, all species combined in numbers of fish and weight in pounds, by section, by facility, by month. Table 53 and figure 14 present these data as summaries by seasons. Generally, the catch in the Southern Section is consistently higher than that for the Northern Section, both by months and seasons.

As seen in figure 14, greatest numbers and weights of fish occurred in the spring, lowest values appeared in the summer, and those for the fall fell midway between. From information gathered during interviews with fishermen, bait dealers, and camp operators and our few observations in January and February, we are convinced that the winter catch at least equals that for the spring.

Table 52.--Estimated sport fishery catch, Cape Canaveral Area; February-October 1963, all species combined in numbers of fish and weight in pounds, by section, by facility, by month

Facility	February		March		April		May		June	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Southern Section										
Bridges and causeways	--	--	120,202	129,410	104,081	102,741	119,601	121,526	60,560	44,834
Ocean piers	--	--	27,573	27,485	4,842	4,431	1,577	1,714	8,704	6,726
Port Canaveral inside	--	--	18,542	29,134	11,968	7,723	12,359	9,649	7,172	6,798
Port Canaveral outside	--	--	1,654	3,614	96	144	4,461	21,439	2,592	14,534
Boat fishery	--	--	15,512	20,348	33,010	29,313	12,907	19,665	53,453	63,115
Subtotal			183,483	209,991	153,997	144,352	150,905	173,993	132,481	136,007
Northern Section										
Bank fishery	19,980	14,211	43,140	52,686	45,324	38,124	23,688	19,359	22,077	14,460
Bridges	14,560	8,408	56,248	61,928	35,576	19,504	17,856	10,792	12,904	6,240
Surf areas	2,198	5,344	19,324	21,804	9,774	11,488	9,004	7,278	1,662	1,462
Boat fishery	19,404	30,643	29,969	46,972	38,275	62,718	40,922	57,880	17,392	29,806
Subtotal	56,142	58,606	148,681	183,390	128,949	131,834	91,470	95,309	54,035	51,968
Combined total			332,164	393,381	282,946	276,186	242,375	269,302	186,516	187,975

Facility	July		August		September		October	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Southern Section								
Bridges and causeways	88,645	71,958	96,970	81,176	168,594	120,406	71,402	59,959
Ocean piers	18,634	12,338	8,492	10,269	9,819	10,375	4,729	7,265
Port Canaveral inside	45,371	47,610	11,126	10,297	10,174	9,608	10,568	20,183
Port Canaveral outside	6,462	29,424	6,068	25,953	3,447	14,886	4,944	39,594
Boat fishery	--	--	--	--	--	--	--	--
Subtotal	159,112	161,330	122,656	127,695	192,034	155,275	91,643	127,001
Northern Section								
Bank fishery	20,166	12,888	23,316	12,696	18,291	11,934	17,178	13,914
Bridges	18,368	11,272	26,160	16,248	20,672	13,280	25,880	9,016
Surf areas	6,690	6,230	4,288	3,838	2,984	2,580	6,670	4,460
Boat fishery	44,622	66,848	31,411	50,857	50,056	69,819	98,352	98,617
Subtotal	89,846	97,238	85,175	83,639	92,003	97,613	148,080	126,007
Combined total	248,958	258,568	207,831	211,334	284,037	252,888	239,723	253,008

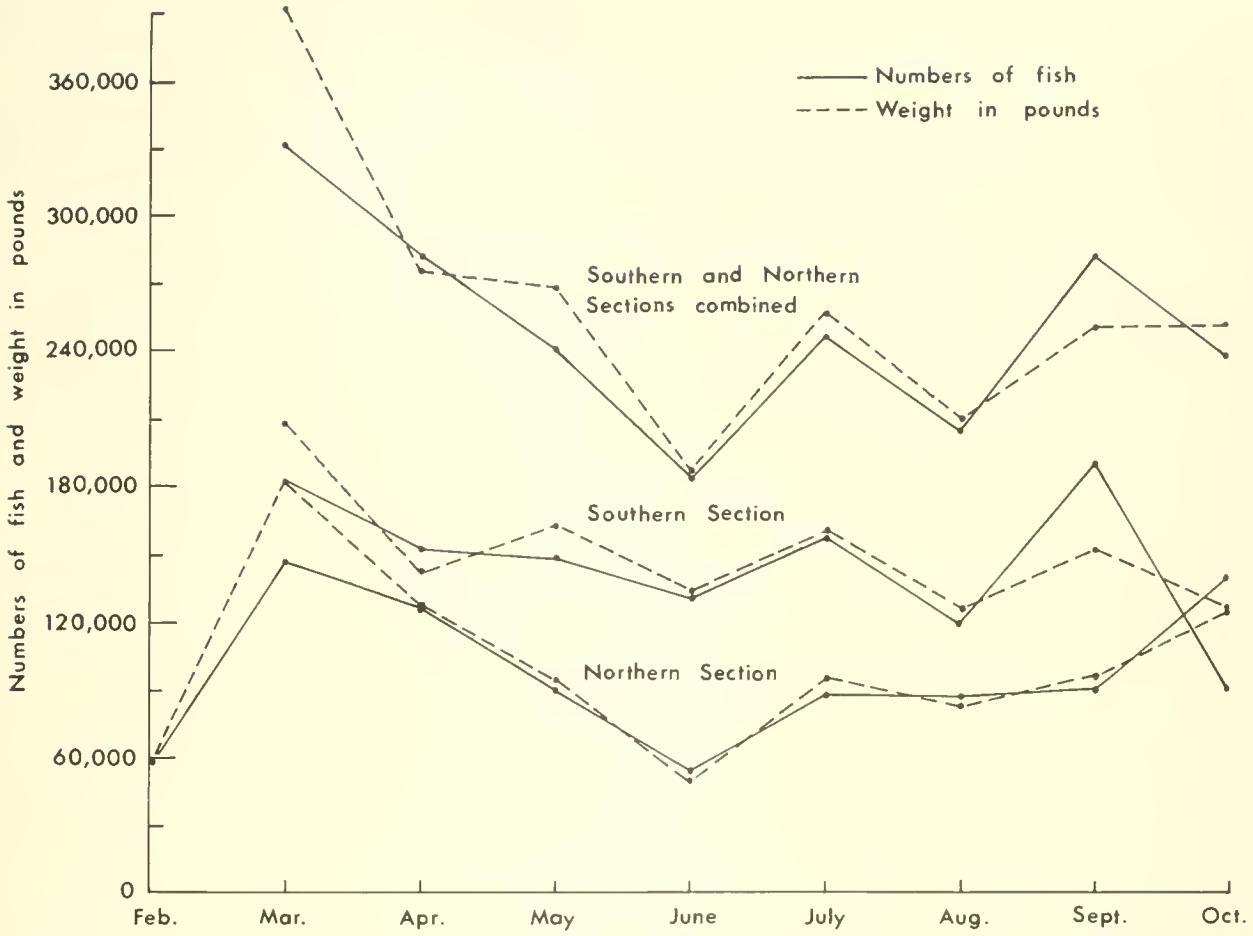


Figure 13.--Estimated sport fishery catch, Cape Canaveral Area; February-October 1963, all species combined, in numbers of fish and weight in pounds, by section and totals for the area, by month.

Table 53.--Estimated sport fishery catch, Cape Canaveral Area; 1963 spring, summer, and fall totals, all species combined, in numbers of fish and weight in pounds, by section and facility

Facility	Spring		Summer		Fall		Total	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Southern Section								
Bridges and causeways	343,884	353,677	246,175	197,968	359,992	270,547	950,051	822,192
Ocean piers	33,992	33,630	35,830	29,333	21,825	26,460	91,647	89,423
Port Canaveral inside	42,869	46,506	63,669	64,705	31,124	44,687	137,662	155,898
Port Canaveral outside	6,211	25,197	15,122	69,912	12,586	81,720	33,919	176,829
Boat fishery	61,429	69,326	--	--	--	--	61,429	69,326
Subtotal	488,385	528,336	360,796	361,918	425,527	423,414	1,274,708	1,313,668
Northern Section								
Bank fishery	112,152	110,169	65,559	40,044	53,235	38,757	230,946	188,970
Bridges	109,680	92,224	57,432	33,760	69,824	33,432	236,936	159,416	
Surf areas	38,102	40,570	12,640	11,530	14,478	10,564	65,220	62,664
Boat fishery	109,166	167,570	93,425	147,511	222,612	252,656	425,203	567,737
Subtotal	369,100	410,533	229,056	232,845	360,149	335,409	958,305	978,787
ɔbined total	857,485	938,869	589,852	594,763	785,676	758,823	2,233,013	2,292,455

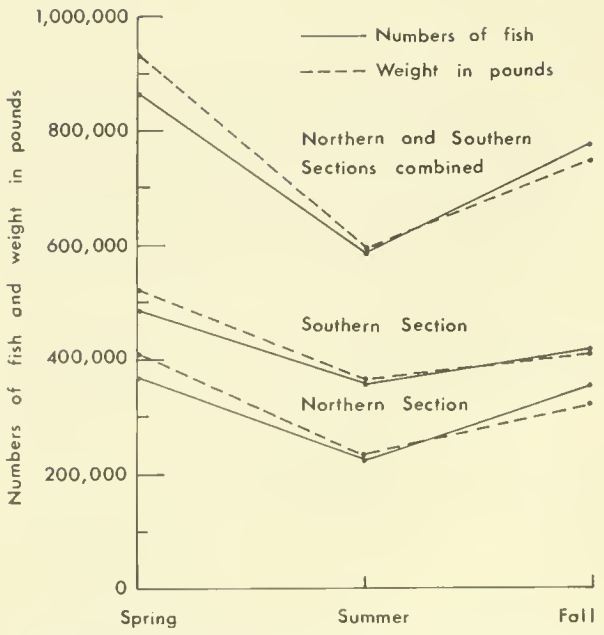


Figure 14.--Estimated sport fishery catch, Cape Canaveral Area; 1963 spring, summer, and fall totals, all species combined, all facilities combined, in numbers of fish and weight in pounds.

FISHING EFFORT

Table 54 presents estimated sport fishery effort in numbers of fishermen and hours fished by sections, by facility, by month. It is obvious that about half of the fishermen in the Southern Section are in the category "bridges and causeways" and about one quarter of them are in the "boat fishery." Over a third of the fishermen in the Northern Section are in the category "bank fishery," and a little less than a third are in the "boat fishery." In total, approximately 56 percent of the fishermen in the Cape Canaveral Area fished in the Southern Section and 44 percent in the Northern Section (monthly totals, by section, show higher numbers in the Northern Section than in the Southern Section for the months of February, March, April, and October, see figure 15 and table 54). The monthly estimates of numbers of fishermen during March to October varied between about 55,000 and 86,000 (February figures are incomplete).

Concerning total hours fished in the Southern Section, "bridges and causeways" fishery accounted for a little less than half, and the "boat fishery" for a little more than one-quarter (table 54). In the Northern Section, the "boat fishery" accounted for a little over

Table 54.--Estimated sport fishery effort in numbers of fishermen and hours fished, Cape Canaveral Area, February-October 1963; by section, by facility, by month

Facility	February		March		April		May		June	
	Number of fishermen	Hours fished	Number of fishermen	Hours fished	Number of fishermen	Hours fished	Number of fishermen	Hours fished	Number of fishermen	Hours fished
Southern Section										
Bridges and causeways	--	--	20,592	67,257	20,684	58,736	21,167	73,597	16,042	55,210
Ocean piers	--	--	3,194	10,562	3,161	7,345	1,265	5,855	2,635	11,615
Port Canaveral inside	7,703	10,593	6,263	25,192	4,154	27,002	5,156	11,989	1,883	8,096
Port Canaveral outside	625	3,120	1,555	7,307	144	152	2,488	10,967	2,595	9,900
Boat fishery	2,049	8,913	3,990	17,995	8,264	46,361	7,387	34,793	9,813	37,486
Subtotal	10,377	22,626	35,594	128,313	36,407	139,596	37,463	137,201	32,968	122,307
Northern Section										
Bank fishery	8,246	28,560	13,972	62,694	23,369	33,312	7,439	23,660	8,338	24,865
Bridges	3,769	14,699	13,941	54,370	7,891	28,408	4,736	14,682	4,430	11,518
Surf areas	1,357	4,750	5,850	20,475	3,455	12,093	3,607	11,903	916	2,015
Boat fisbery	4,304	19,540	9,446	40,996	8,626	42,527	7,304	34,329	7,944	27,089
Subtotal	17,676	67,549	43,209	178,535	43,341	116,340	23,086	84,574	21,628	65,487
Combined total	28,053	90,175	78,803	306,848	79,748	255,936	60,549	221,775	54,596	187,794

Facility	July		August		September		October		Total	
	Number of fishermen	Hours fished	Number of fishermen	Hours fished	Number of fishermen	Hours fished	Number of fishermen	Hours fished	Number of fishermen	Hours fished
Southern Section										
Bridges and causeways	22,807	67,821	24,748	89,435	26,453	84,101	14,593	45,832	167,086	541,988
Ocean piers	3,913	14,630	3,219	14,699	3,505	15,700	2,328	9,079	23,220	89,485
Port Canaveral inside	8,033	25,542	7,430	20,361	5,536	21,679	5,488	19,805	51,646	170,259
Port Canaveral outside	4,600	20,548	4,139	17,395	1,842	11,165	1,526	7,630	19,514	88,184
Boat fishery	16,541	71,953	17,074	74,272	6,635	28,862	3,734	16,243	75,487	336,878
Subtotal	55,894	200,494	56,610	216,162	43,971	161,507	27,669	98,589	336,953	1,226,795
Northern Section										
Bank fishery	7,033	29,733	9,220	29,238	7,924	30,118	14,740	43,004	100,281	305,184
Bridges	7,934	22,215	9,052	28,966	6,100	20,740	5,049	22,216	62,902	217,814
Surf areas	1,824	5,654	3,604	10,812	1,994	7,777	2,830	9,622	25,437	85,101
Boat fishery	10,925	57,574	7,564	36,610	12,075	51,603	11,686	52,821	79,874	363,089
Subtotal	27,716	115,176	29,440	105,626	28,093	110,238	34,305	127,663	268,494	971,188
Combined total	83,610	315,670	86,050	321,788	72,064	271,745	61,974	226,252	605,447	2,197,983

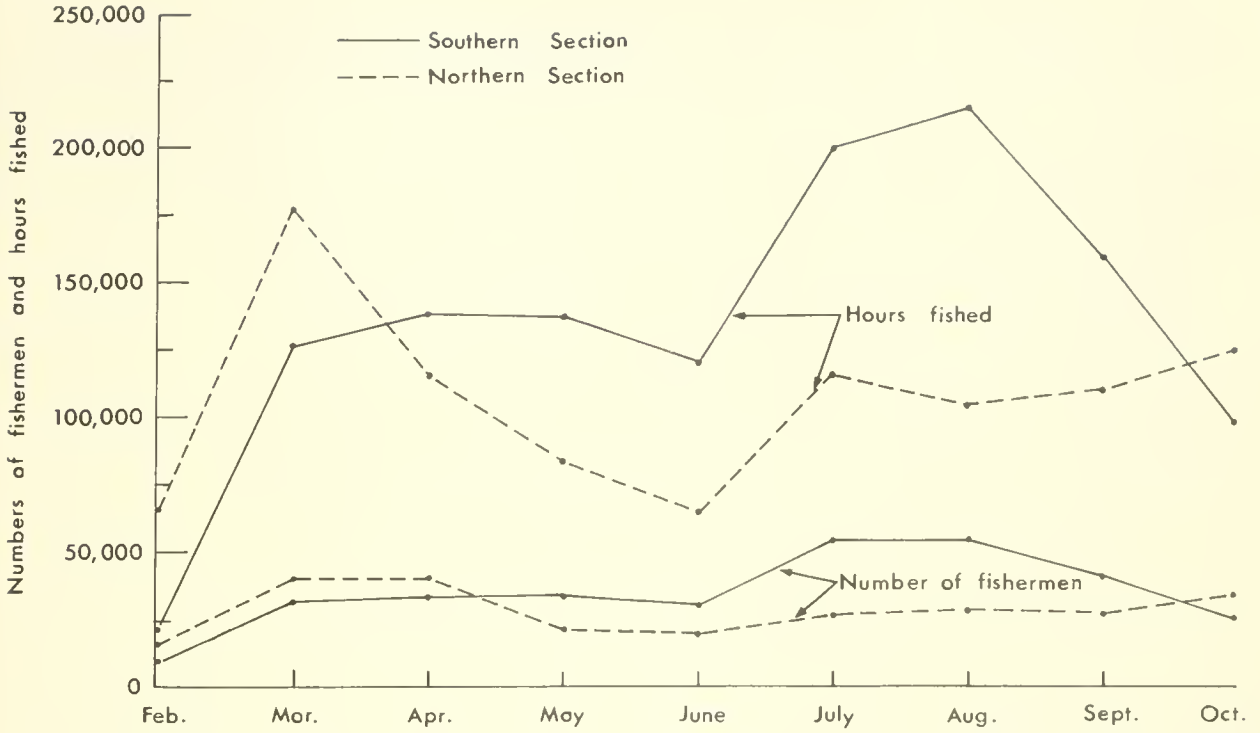


Figure 15.--Estimated sport fishery effort in numbers of fishermen and hours fished, Cape Canaveral Area, February-October 1963; by section (all facilities combined), by month.

one-third of the hours fished, and the "bank fishery" a little less than one-third. Total hours fished in the Southern Section represent about 56 percent of the total for the area, and the Northern Section accounted for about 44 percent (monthly totals by section, figure 15 and table 54, show more hours fished in the Northern Section for the months of February, March, and October). Numbers of hours fished by month during March to October varied between about 188,000 and 322,000 (February figures are incomplete).

CATCH PER UNIT OF EFFORT

Catch-per-unit-of-effort data (numbers of fish per hour of fishing) for all species combined are presented by section, by facility, by month in table 55.

Values for the Southern Section for the period as a whole varied from a low of 0.37 for "Port Canaveral outside" to a high of 1.53 for "bridges and causeways." Over the months, for all facilities combined, the value ranged from 0.86 to 1.45.

Values for the Northern Section for the period as a whole varied from lows of 0.74 for "surf areas" and 0.76 for "bank fishery" to highs of 1.02 for "boat fishery" and 1.05 for "bridges." Over the months, for all facilities combined, the value ranged from 0.78 to 1.16.

Combining all hours and all fish, the catch per unit of effort was 1.17 for the Southern Section and 0.92 for the Northern Section. For all hours and all fish for the entire area the catch per unit of effort was 1.05.

BAIT FISHERY

Northern Section

Fish camp operators in the Cape Canaveral Area provided information on the kinds, amounts, and source of bait which they sell. Live shrimp are dipped by most operators from the Indian River in the spring, summer, and fall, when shrimp are available. During the winter, operators are dependent upon shrimp shipped from the west and south coast of Florida to two wholesalers of live shrimp at Oak Hill. Bait shrimp vary from large

Table 55.--Estimated sport fishery catch-per-unit-of-effort, Cape Canaveral Area, February-October 1963; all species combined, in numbers of fish per hour of fishing, by section, by facility, by month

Facility	Numbers of fish per hour of fishing									
	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Average /1
Southern Section										
Bridges and causeways	--	1.79	1.77	1.62	1.10	1.31	1.08	2.00	1.56	1.53
Ocean piers	--	2.61	.66	.27	.75	1.27	.58	.63	.52	.94
Port Canaveral inside	--	.74	.44	1.03	.89	1.78	.55	.47	.53	.80
Port Canaveral outside	.94	.23	.63	.41	.26	.31	.35	.31	.65	.37
Boat fishery	--	.86	.71	.37	1.43	--	--	--	--	.84
Average /1	--	1.43	1.10	1.10	1.08	1.24	.86	1.45	1.11	1.17
Northern Section										
Bank fishery	.70	.69	1.36	1.00	.89	.68	.80	.61	.40	.76
Bridges	.99	1.03	1.25	1.22	1.12	.83	.90	1.00	1.16	1.05
Surf areas	.46	.94	.81	.76	.82	1.18	.40	.38	.69	.74
Boat fishery	.99	.73	.90	1.19	.64	.78	.86	.97	1.86	1.02
Average /1	.83	.83	1.11	1.08	.83	.78	.81	.83	1.16	.92
Cape Canaveral Area										
average /1	--	1.08	1.11	1.09	.99	1.02	.84	1.17	1.14	1.05

/1 Total number of fish divided by total number of hours fished

eating size to extremely small shrimp, only slightly larger than grass shrimp. For the period we sampled, heads-on shrimp used for bait were estimated to average 90 to the pound. The estimated numbers, poundages, and values of the live shrimp sold for bait by 22 camp operators and bait dealers in the Northern Section by seasons are:

	Spring	Summer	Fall	Winter	Total
Numbers sold per week	67,800	98,750	86,250	79,800	332,600
Numbers sold per season	881,400	1,283,750	1,121,250	1,037,400	4,323,800
Dozens sold per season	73,450	106,979	93,438	86,450	360,317
Pounds per season	9,793	14,263	12,458	11,526	48,042
Value at 30 cents per dozen	$22,035	$32,094	$28,031	$25,935	$108,095

During the winter when fish camp operators and bait retailers are forced to ship in live shrimp, little or no profit is made because of heavy mortality, and dealers handle live shrimp merely for the convenience of fishermen. The retail value of shrimp is estimated to vary, by season, between $22,000 and $32,000, with an annual value of $108,095. The estimated total number of live shrimp sold annually is 4,323,800 or 48,042 pounds. This amounts to $2.25 per pound to the consumer for whole weight, or about $4.50 per pound if purchased for tails alone.

Shrimp are taken primarily by dipping when they are abundant and moving, but some operators take considerable numbers using small beam trawls. Shrimp are also taken by persons using push nets.

Juvenile pigfish are preferred bait for trout during June to October. After October the operators believe pigfish have grown too large for trout to be interested in them. Pigfish are captured by fish camp personnel using hook and line, small beam trawls, push nets, and traps. Traps and hook and line are the preferred methods. Pigfish used for bait vary from 2.5 to 4.0 inches total length and average 10 to the pound. Twelve camp operators sell an estimated 224,840 pigfish or 22,484 pounds annually, worth $28,105. Individual live pigfish are sold by the dealers at 10 to 15 cents each, or approximately $1.25 per pound.

One bait dealer in Titusville reported he sold squid shipped from Jacksonville, when available, and also sand fleas.

Dead shrimp also are sold for bait by the operators; however, it was not possible to make an estimate of the poundage sold. One major camp operator and a major bait dealer reported selling 10,660 pounds annually worth $8,162.

The retail price to the sport fishermen averages 70 cents per pound.

One bait dealer at Titusville reported selling 500 pounds of dead mullet per week during October and November and 125 pounds per week the remainder of the year; an annual total of 9,762 pounds at 25 cents per pound is worth about $2,440. The increase in sales in the fall is attributed to the bluefish fishery. The amount of dead mullet sold in the entire Northern Section is estimated to be at least double that for Titusville.

Southern Section

Estimated bait sales in the Southern Section are:

Bait	Sold per week	Sold per year	Estimated Cost to fishermen per year
	Pounds	Pounds	Dollars
Live shrimp	800	41,600	93,600
Dead shrimp	650-800	33,800-41,600	23,660-29,120
Mullet	1,500-1,600	78,000-83,200	19,500-20,800

The average buyer purchases 2 to 3 dozen live shrimp, three-fourths of a pound of dead shrimp (heads-on weight), and about one and one-half pounds of mullet. Other bait sold includes: pigfish, squid, sand fleas, yellowtails, fiddler crabs, and needlefish.

Live shrimp for fishing in the Cape Canaveral Area are obtained mostly from Smith and Sutton at Oak Hill, some from Rice at Vero Beach, and occasionally from other places in Florida; and dead shrimp from Oak Hill, Port Canaveral, Jacksonville, Vero Beach, Venezuela, Nicaragua, Costa Rica, and India. The other bait used is locally obtained.

MISCELLANEOUS RECORDS

Gary Bennett

Gary Bennett, owner and operator of a large bait and tackle shop in Cocoa, kept partial records of the fish catch in the Cocoa area for several years, which he permitted us to use. A comparison of Bennett's data for 1956, 1957, and 1959 with ours shows that the sea trout (mostly spotted) was the only species reported with enough consistency to reflect trends. Spotted sea trout is the most sought after game fish in the inside waters, and special buttons are given to individuals catching trout weighing 6 pounds or more. Other species of fish were reported to Bennett if they were large specimens, caught in considerable numbers, or incidental to a spotted sea trout catch which was reported.

The catches of sea trout (most or all spotted) from Bennett's records for Indian River, Banana River, Sykes Creek, and Barge Canal were combined (table 56). Sea trout fishing (average monthly catches) was poorest in February and March, generally improved steadily through the spring, and was best in late spring and summer. The catch decreased in late summer (September) and increased through the fall and early winter.

Table 56.--Sea trout (mostly spotted) catch, Indian River, Sykes Creek, Barge Canal, and Banana River for 1956, 1957, and 1959, in numbers of fish, by month, by year, with averages

[Extracts of records maintained by Gary Bennett, Cocoa, Florida, on fish catches reported to him]

Month	1956	1957	1959	Total	Average
January	877	1,668	1,204	3,749	1,250
February	384	561	436	1,381	460
March	471	697	523	1,691	564
April	1,216	2,228	396	3,840	1,280
May	1,952	2,140	1,566	5,658	1,886
June	2,343	1,940	2,140	6,423	2,141
July	1,633	1,661	1,046	4,340	1,447
August	1,384	1,880	2,449	5,713	1,904
September	856	664	1,695	3,215	1,072
October	1,248	1,110	1,328	3,686	1,229
November	1,864	1,559	429	3,852	1,284
December	1,873	1,255	1,505	4,633	1,544
Total	16,101	17,363	14,717	48,181	16,060

Charter and Party Boat Ocean Fishery

The charter and party boats fishing in the ocean in the Cape Canaveral Area are based at ports from Melbourne to Port Orange. As the vessels from Port Orange and Melbourne fish only a small amount of their time in the study area, they were omitted from the statistics. Also, the erratic and questionable catch records of the vessel Intrepid of Patrick Air Force Base were omitted. The fleet fishing the area the major portion of the time consists of 24 boats:

Port	Number of boats
Port Canaveral	4
New Smyrna Beach	2
Inlet Harbor	15
Safety Harbor	2
Timmons Fish Camp	1
Total	24

The following methods were used to estimate the total party and charter boat catch in the study area in 1962. We interviewed the major

vessel operators from New Smyrna Beach to Safety Harbor (over 80 percent of the vessels operating in the study area). The charter and party boats fished primarily on offshore reefs and trolled between these reefs and the port. When large numbers of mackerel appear in the area and are easily taken by troll gear some vessels fish for them exclusively. Three of the vessels fished solely for reef fish in 1962. The offshore reefs are shown in figure 2.

Vessel operators indicated that boats were out nearly every day in the summer of 1962 and averaged 2 days per week during the winter. We estimate the fleet to average about 11 trips per month per vessel, or a total of 3,168 trips annually.

The boats fishing from Inlet Harbor are considered typical of the fleet and represent 50 percent of the entire fleet in 1962. When the vessels return to port, the catch is hung on racks, and the fishermen and catch are photographed along with the date and the name of the vessel. The number of fishermen and estimates of the number of fish and weight by species were obtained from the photographs. Estimates of numbers and weights are minimums, as the catch beyond the capacity of the fish rack is placed in a large wheelbarrow which sometimes did not show in the photograph, or fish may be hidden behind the backs of the fishermen in the foreground. The large wheelbarrow was said to hold 150 pounds and, when observed in a photo, was recorded as one-fourth, one-half, three-fourths, or full for estimates of poundage. No attempt was made to determine the species of fish in the wheelbarrow.

Photographs of catches from 447 trips by 12 boats from Inlet Harbor during February to September 1962 were examined. The catches photographed, by vessel, by month, and numbers of fishermen by month are given in table 57. There were 4,410 fishermen, or an average of about 10 per trip. We estimate the 447 trips photographed to represent about one-seventh of the trips made by the fleet in the Cape Canaveral Area in 1962, and that about 30,870 fishermen participated in the entire fishery.

The actual counts of fish in the photographs and their estimated weights in pounds and the estimated total numbers and weights for the entire fishery for 1962 are given in table 58. The estimated total catch by species in 1962 was arrived at by multiplying the values for the sample by seven.

There are several reasons why the estimated total numbers and weights of fish are believed to be minimum. Fish caught trolling, such as jack crevalle, or certain bottom reef fishes may be discarded because of their inferior food quality. Fishes such as black sea bass may be kept when bottom fishing is average to poor but discarded when bottom fishing for amberjack and snappers is good. Other fishes, such as filefish, puffers, remoras, sharks, rays, and toadfish may be landed to be photographed for their bizarre appearance.

Table 57.--Sport fishery catch, Cape Canaveral Area; distribution by name of vessel and month of 447 catches, February-September 1962, for which photographs were examined for species composition and weight, and numbers of fishermen

Vessel Name	Number of catches photographed								
	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
Black Duck	11	--	5	8	15	18	3	--	60
Geywind	8	--	2	12	15	14	2	2	55
Laura K.	5	--	5	4	16	11	5	1	47
Mako	--	2	8	12	20	20	5	6	73
Misbehavin II	--	--	--	--	5	8	1	1	15
Miss Juanita	2	1	8	11	19	16	3	2	62
Moby Dick	8	--	--	2	8	2	1	1	22
Papoose II	--	--	--	--	9	18	5	--	32
Snapper	--	--	--	--	--	11	1	--	12
Snow White	7	--	3	4	17	14	4	--	49
My Sweetheart	--	--	--	--	17	--	--	--	17
Vessel /1	--	--	--	--	--	1	1	1	3
Total	41	3	31	53	141	133	31	14	447
Number of fishermen	383	33	294	433	1,444	1,409	293	121	4,410

/1 Vessel name unknown.

Table 58.--Estimated sport fishery catch, Cape Canaveral Area; charter and party boat catch for 1962

[Estimation based upon a projection of data obtained from examination of photographs of 447 catches from 12 boats operating out of Inlet Harbor, February-September]

Species	Composition of 447 catches as determined from photographs		Estimated total catch for Cape Canaveral Area	
	Number of fish	Estimated weight in pounds	Number of fish	Estimated weight in pounds
Amberjack	824	21,068	5,768	147,476
Barracuda	21	152	147	1,064
Bluefish	1	3	7	21
Bonito, Atlantic	14	58	98	406
Cabio	166	3,280	1,162	22,960
Dolphin	263	1,549	1,841	10,843
Filefish	9	29	63	203
Flounders	2	6	14	42
Groupers	586	8,282	4,102	57,974
Grunts	5	10	35	70
Jack, crevalle	2	50	14	350
Jack, other	1	2	7	14
King mackerel	3,718	26,796	26,026	187,572
Little tuna	1,154	11,283	8,078	78,981
Porgies	214	531	1,498	3,717
Puffers	4	6	28	42
Rays	1	20	7	140
Remoras	96	400	672	2,800
Sailfish, Atlantic	2	80	14	560
Sea bass, black	1,201	2,879	8,407	20,153
Sharks	15	904	105	6,328
Sheepshead	13	74	91	518
Snapper, mangrove	3	18	21	126
Snapper, red	11,177	56,141	78,239	392,987
Snapper, vermilion	3,290	4,612	23,030	32,284
Snapper, other	9	57	63	399
Spadefish	3	11	21	77
Spanish mackerel	12	44	84	308
Toadfish	4	16	28	112
Triggerfish	412	1,684	2,884	11,788
Tuna, other	9	57	63	399
Wahoo	2	70	14	490
Unclassified fish	49	96	343	672
Misc. fish in wheelbarrows /1	1,472	8,875	10,304	62,125
Total	24,754	149,143	173,278	1,044,001

/1 Wheelbarrows of fish--Fish which were excess to what the display rack would hold. Full wheelbarrow estimated to contain 150 pounds of fish. Numbers of fish are conversions of weights at 6.03 pounds per fish.

Sunglow Ocean Fishing Pier

There are no ocean fishing piers in the Northern Section. The Sunflow Ocean Fishing Pier, however, is located only a few miles north of the study area. The catches of fish at the pier are compiled weekly and published in "Day by Day." This catch information is valuable as an indicator of the occurrence and abundance of the sport fishes along the beach.

The catch in numbers and estimated weights by species, by month and season are presented in tables 59 and 60. On an annual basis, bluefish represent 44 percent of the total numbers and 54 percent of the total weight, and king whiting represent 35 percent of the numbers and 22 percent of the weight. Peak catches of bluefish occurred during March and April, and for king whiting the highest catches occurred January to March.

For all species combined, peak catches were recorded in March and April.

Timmons Fishing Camp

A substantial number of fish caught in Ponce de Leon Inlet are landed at Timmons Fishing Camp, Inlet Harbor Fish Camp, Safety Harbor Fish Camp, and several small fish camps where boats may be rented or private boats launched. Several party boats from Inlet Harbor and Safety Harbor fish the inlet only. There are also many places where the inlet may be fished from the bank on the north side.

"Day by Day," published in Daytona Beach, reports weekly catches in numbers and species

Table 59.--Sport fishery catch, Sunglow Ocean Fishing Pier, Daytona Beach, Florida; September 1962-August 1963, numbers of fish and estimated weights in pounds, by species, by month

[Species and numbers of fish are extracts of records appearing in Day by Day, published by V. R. Hall, Daytona Beach, Florida; weights of "<1 pound" were considered as "1 pound" in determination of totals]

Species	September 1962		October 1962		November 1962		December 1962		January 1963		February 1963		March 1963	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Bluefish	189	284	585	878	660	990	389	584	23	34	7	10	3,255	4,882
Cabio	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Catfish	3	2	3	2	2	2	--	--	--	--	--	--	--	--
Croaker	--	--	3	2	--	--	--	--	--	--	1	<1	--	--
Drum, black	519	779	73	110	67	100	71	106	25	38	19	28	3	4
Drum, red	134	268	92	184	47	94	25	50	--	--	--	--	3	6
Flounders	68	85	63	79	25	31	5	6	2	2	1	1	--	--
Jack, crevalle	4	6	2	3	6	9	--	--	15	22	--	--	1	2
King mackerel	5	40	--	--	--	--	--	--	--	--	--	--	--	--
King whiting	1,332	999	473	355	346	260	713	535	1,626	1,220	889	667	2,295	1,721
Little tuna	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pinfish	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pompano	79	40	68	34	5	2	--	--	--	--	--	--	1	<1
Rays	--	--	--	--	--	--	1	1	--	--	--	--	1	1
Sea trout, spotted	21	37	132	231	91	159	1	2	7	12	1	2	1	2
Sheepshead	77	96	112	140	25	31	1	1	2	2	4	5	2	2
Snapper, mangrove	3	2	--	--	--	--	--	--	--	--	--	--	--	--
Spadefish	61	30	17	8	11	6	--	--	--	--	--	--	--	--
Spanish mackerel	136	238	320	560	192	336	50	88	--	--	--	--	22	38
Spot	5	2	3	2	13	6	13	6	4	2	--	--	--	--
Tenpounder	96	96	22	22	--	--	--	--	--	--	--	--	--	--
Yellowtail	--	--	3	<1	--	--	--	--	--	--	--	--	--	--
Unclassified fish	--	--	1	<1	--	--	--	--	--	--	--	--	--	--
Total	2,732	3,004	1,972	2,612	1,490	2,026	1,269	1,379	1,704	1,332	922	714	5,584	6,659

Species	April 1963		May 1963		June 1963		July 1963		August 1963		Total	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Bluefish	7,155	10,732	416	624	214	321	29	44	202	303	13,124	19,686
Cabio	--	--	--	--	--	--	2	18	--	--	2	18
Catfish	1	<1	--	--	--	--	--	--	--	--	9	7
Croaker	--	--	13	6	2	1	132	66	--	--	151	76
Drum, black	18	27	68	102	225	338	135	202	245	368	1,468	2,202
Drum, red	5	10	8	16	18	36	7	14	15	30	354	708
Flounders	2	2	10	12	52	65	17	21	45	56	290	360
Jack, crevalle	7	10	25	38	12	18	17	26	--	--	89	134
King mackerel	--	--	13	104	7	56	26	208	10	80	61	488
King whiting	556	417	222	166	447	335	782	586	684	513	10,365	7,774
Little tuna	--	--	--	--	1	6	1	6	8	52	10	64
Pinfish	--	--	6	2	--	--	--	--	--	--	6	2
Pompano	1	<1	11	6	7	4	13	6	13	6	198	100
Rays	--	--	--	--	--	--	--	--	--	--	2	2
Sea trout, spotted	8	14	44	77	46	80	7	12	18	32	377	660
Sheepshead	19	24	39	49	24	30	35	44	325	406	665	830
Snapper, mangrove	--	--	--	--	--	--	--	--	--	--	3	2
Spadefish	5	2	112	56	33	16	5	2	--	--	244	120
Spanish mackerel	181	317	334	584	4	7	6	10	--	--	1,245	2,178
Spot	--	--	51	26	333	166	302	151	50	25	774	386
Tenpounder	--	--	8	8	8	8	1	1	2	2	137	137
Yellowtail	--	--	--	--	--	--	--	--	--	--	3	<1
Unclassified fish	--	--	--	--	90	22	1	<1	--	--	92	24
Total	7,958	11,557	1,380	1,876	1,523	1,509	1,518	1,418	1,617	1,373	29,669	35,959

for Timmons Fishing Camp. From the size of the operations at Safety Harbor, Inlet Harbor Fish Camp, and the small camps, we estimate the landings reported at Timmons for a year to represent about 20 percent of the total numbers of fish landed on the north side of the inlet.

The catch in numbers and estimated weights by species, by month and season for Timmons Fishing Camp are presented in tables 61 and 62.

On an annual basis, sheepshead represent 41 percent of the total numbers and 44 percent of the total weight, spotted sea trout represent 7 percent of the numbers and 10 percent of the weight, and red drum represent 7 percent of the numbers and 12 percent of the weight.

For all species combined, peak catches were recorded during October-December and April-May.

Table 60.--Sport fishery catch, Sunglow Ocean Fishing Pier, Daytona Beach, Florida; 1962 fall, 1962-1963 winter, and 1963 spring and summer totals, in numbers of fish and estimated weights in pounds, by species

[Species and numbers of fish are extracts of records appearing in Day by Day, published by V. R. Hall, Daytona Beach, Florida; weights of "<1 pound" were considered as "1 pound" in determination of totals]

Species	Fall 1962		Winter 1962-1963		Spring 1963		Summer 1963		Total	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Bluefish	1,434	2,152	419	628	10,826	16,238	445	668	13,124	19,686
Cabio	--	--	--	--	--	--	2	18	2	18
Catfish	8	6	--	--	1	1	--	--	9	7
Croaker	3	2	1	<1	13	6	134	67	151	76
Drum, black	659	989	115	172	89	133	605	908	1,468	2,202
Drum, red	273	546	25	50	16	32	40	80	354	708
Flounders	156	195	8	9	12	14	114	142	290	360
Jack, crevalle	12	18	15	22	33	50	29	44	89	134
King mackerel	5	40	--	--	13	104	43	344	61	488
King whiting	2,151	1,614	3,228	2,422	3,073	2,304	1,913	1,434	10,365	7,774
Little tuna	--	--	--	--	--	--	10	64	10	64
Pinfish	--	--	--	--	6	2	--	--	6	2
Pompano	152	76	--	--	13	8	33	16	198	100
Rays	--	--	1	1	1	1	--	--	2	2
Sea trout, spotted	244	427	9	16	53	93	71	124	377	660
Sheepshead	214	267	7	8	60	75	384	480	665	830
Snapper, mangrove	3	2	--	--	--	--	--	--	3	2
Spadefish	89	44	--	--	117	58	38	18	244	120
Spanish mackerel	648	1,134	50	88	537	939	10	17	1,245	2,178
Spot	21	10	17	8	51	26	685	342	774	386
Tenpounder	118	118	--	--	8	8	11	11	137	137
Yellowtail	3	<1	--	--	--	--	--	--	3	<1
Unclassified fish	1	<1	--	--	--	--	91	23	92	24
Total	6,194	7,642	3,895	3,425	14,922	20,092	4,658	4,800	29,669	35,959

Table 61.--Sport fishery catch, Timmons Fishing Camp, at Ponce de Leon Inlet, Florida; September 1962-August 1963, numbers of fish and estimated weights in pounds, by species, by month

[Species and numbers are extracts of records appearing in Day by Day, published by V. R. Hall, Daytona Beach, Florida; weights of "<1 pound" were considered as "1 pound" in determination of totals]

Species	September 1962		October 1962		November 1962		December 1962		January 1963		February 1963		March 1963	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Bluefish	1	2	20	30	17	26	27	40	1	2	4	6	96	144
Cabio	--	--	1	9	--	--	--	--	--	--	--	--	--	--
Catfish	--	--	3	2	--	--	--	--	4	3	--	--	--	--
Croaker	2	1	10	5	34	17	8	4	1	<1	--	--	6	3
Drum, black	58	87	140	210	121	182	134	201	71	106	8	12	36	54
Drum, red	90	180	80	160	163	326	264	528	126	252	21	42	10	20
Eels	--	--	1	2	1	2	--	--	--	--	--	--	--	--
Flounders	15	19	12	15	21	26	7	9	4	5	--	--	3	4
Groupers	6	3	4	2	14	7	1	<1	1	<1	--	--	--	--
Grunts	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Jack, crevalle	21	32	20	30	11	16	1	2	--	--	--	--	34	51
King whiting	30	22	57	43	34	26	25	19	46	34	15	11	16	12
Pigfish	3	<1	8	2	3	<1	7	2	4	1	--	--	--	--
Pinfish	3	<1	38	10	5	1	8	2	--	--	1	<1	--	--
Pompano	5	2	3	2	--	--	--	--	--	--	--	--	--	--
Rays	--	--	--	--	--	--	--	--	--	--	--	--	1	1
Sea robin	--	--	1	<1	--	--	--	--	1	<1	1	<1	--	--
Sea trout, spotted	49	86	94	164	84	147	36	63	29	51	12	21	41	72
Sea trout, other	--	--	1	1	17	17	12	12	1	1	47	47	14	14
Sharks	2	7	--	--	--	--	--	--	--	--	--	--	--	--
Sheepshead	599	749	580	725	609	761	976	1,220	419	524	136	170	159	199
Snapper, mangrove	229	114	324	162	140	70	39	20	12	6	1	<1	--	--
Snapper, other	--	--	2	6	60	180	5	15	--	--	--	--	--	--
Spadefish	2	<1	--	--	--	--	--	--	--	--	--	--	--	--
Spanish mackerel	--	--	--	--	1	2	--	--	--	--	--	--	--	--
Spot	--	--	3	2	8	4	6	3	--	--	--	--	--	--
Tenpounder	1	1	10	10	29	29	1	1	--	--	--	--	--	--
Yellowtail	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Unclassified fish	117	29	307	77	291	73	236	59	55	14	96	24	--	--
Total	1,233	1,337	1,719	1,670	1,663	1,913	1,793	2,201	775	1,002	342	336	416	574

Table 61.--Continued

Species	April 1963		May 1963		June 1963		July 1963		August 1963		Total	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Bluefish	492	738	97	146	7	10	7	10	14	21	783	1,175
Cabio	--	--	--	--	--	--	--	--	--	--	1	9
Catfish	40	31	10	8	1	<1	1	<1	--	--	59	46
Croaker	6	3	2	1	4	2	20	10	26	13	119	60
Drum, black	42	63	79	118	48	72	66	99	79	118	882	1,322
Drum, red	40	80	87	174	54	108	40	80	51	102	1,026	2,052
Eels	--	--	--	--	--	--	--	--	--	--	2	4
Flounders	21	26	62	78	57	71	38	48	13	16	253	317
Groupers	2	1	1	<1	--	--	1	<1	--	--	30	17
Grunts	--	--	1	<1	3	1	1	<1	--	--	4	3
Jack, crevalle	204	306	103	154	37	56	38	57	73	110	542	814
King whiting	68	51	42	32	36	27	51	38	26	20	446	335
Pigfish	--	--	7	2	5	1	44	11	56	14	137	35
Pinfish	1	<1	2	<1	5	1	11	3	3	<1	77	22
Pompano	--	--	1	<1	1	<1	--	--	--	--	10	6
Rays	3	3	3	3	--	--	--	--	2	2	8	8
Sea robin	--	--	--	--	--	--	--	--	--	--	3	3
Sea trout, spotted	153	268	249	436	113	198	93	163	94	164	1,047	1,833
Sea trout, other	87	87	12	12	1	1	1	1	8	8	201	201
Sharks	2	7	1	4	--	--	--	--	--	--	5	18
Sheepshead	693	866	624	780	323	404	549	686	519	649	6,186	7,733
Snapper, mangrove	8	4	22	11	19	10	50	25	44	22	888	445
Snapper, other	--	--	--	--	--	--	--	--	--	--	67	201
Spadefish	--	--	4	2	2	1	2	1	1	<1	11	6
Spanish mackerel	2	4	--	--	--	--	--	--	--	--	3	6
Spot	1	<1	4	2	1	<1	4	2	--	--	27	15
Tenpounder	28	28	161	161	53	53	22	22	43	43	348	348
Yellowtail	--	--	--	--	--	--	6	2	--	--	6	2
Unclassified fish	117	29	305	76	206	52	92	23	123	31	1,945	487
Total	2,009	2,596	1,879	2,204	975	1,071	1,137	1,284	1,175	1,335	15,116	17,523

Table 62.--Sport fishery catch, Timmons Fishing Camp, at Ponce de Leon Inlet, Florida; 1962 fall, 1962-1963 winter, and 1963 spring and summer totals, in numbers of fish and estimated weights in pounds, by species

[Species and numbers of fish are extracts of records appearing in Day by Day, published by V. R. Hall, Daytona Beach, Florida; weights of "<1 pound" were considered as "1 pound" in determination of totals]

Species	Fall 1962		Winter 1962-1963		Spring 1963		Summer 1963		Total	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Bluefish	38	58	32	48	685	1,028	28	41	783	1,175
Cabio	1	9	--	--	--	--	--	--	1	9
Catfish	3	2	4	3	50	39	2	2	59	46
Croaker	46	23	9	5	14	7	50	25	119	60
Drum, black	319	479	213	319	157	235	193	289	882	1,322
Drum, red	333	666	411	822	137	274	145	290	1,026	2,052
Eels	2	4	--	--	--	--	--	--	2	4
Flounders	48	60	11	14	86	108	108	135	253	317
Groupers	24	12	2	2	3	2	1	<1	30	17
Grunts	--	--	--	--	1	<1	3	2	4	3
Jack, crevalle	52	78	1	2	341	511	148	223	542	814
King whiting	121	91	86	64	126	95	113	85	446	335
Pigfish	14	4	11	3	7	2	105	26	137	35
Pinfish	46	12	9	3	3	2	19	5	77	22
Pompano	8	4	--	--	1	<1	1	<1	10	6
Rays	--	--	--	--	6	6	2	2	8	8
Sea robin	1	1	2	2	--	--	--	--	3	3
Sea trout, spotted	227	397	77	135	443	776	300	525	1,047	1,833
Sea trout, other	18	18	60	60	113	113	10	10	201	201
Sharks	2	7	--	--	3	11	--	--	5	18
Sheepshead	1,788	2,235	1,531	1,914	1,476	1,845	1,391	1,739	6,186	7,733
Snapper, mangrove	693	346	52	27	30	15	113	57	888	445
Snapper, other	62	186	5	15	--	--	--	--	67	201
Spadefish	2	1	--	--	4	2	5	3	11	6
Spanish mackerel	1	2	--	--	2	4	--	--	3	6
Spot	11	6	6	3	5	3	5	3	27	15
Tenpounder	40	40	1	1	189	189	118	118	348	348
Yellowtail	--	--	--	--	--	--	6	2	6	2
Unclassified fish	715	179	387	97	422	105	421	106	1,945	487
Total	4,615	4,920	2,910	3,539	4,304	5,374	3,287	3,690	15,116	17,523

Considering the size of the area involved and our estimations of fishing use and catch, both commercial and recreational, we believe that the Cape Canaveral Area is one of the most productive of areas along the south Atlantic coast of the United States. A great deal of this productivity relates to the unique river-lagoon complex.

COMMERCIAL FISHERY

Average annual production for the commercial fishery in the Cape Canaveral Area for the 4-year period 1959-62 was a little over 6 million pounds worth about $1 million. Of this, eight dominant species (shrimp, black mullet, spotted sea trout, red snapper, blue crab, spot, pompano, and king whiting) contributed 91 percent of the weight, 5-1/2 million pounds, and 94 percent of the value, $945,000. Shrimp, the most valuable of all the Cape Canaveral fisheries, contributed 23 percent of the weight and 54 percent of the value of the entire fishery. Black mullet contributed the greatest poundage, 27 percent of the total, but only 8 percent of the value. Spotted sea trout (the most important sport fish taken in the Cape Canaveral Area) is also an important commercial species, contributing 7 percent of the pounds and 11 percent of the value.

Of the total landings of the five most important commercial species on the Florida east coast, the Cape Canaveral Area contributes, in decreasing order of value, 20 percent of the shrimp, 15 percent of the blue crabs, 41 percent of the red snapper, 49 percent of the spotted sea trout, and 67 percent of the black mullet.

In pursuit of the commercial fishery in the Cape Canaveral Area, an annual average of 628 fishermen, 112 motor vessels, 194 motor boats, and 44 other boats are employed, utilizing a variety of gear, such as shrimp trawls, crab pots, gill nets, trammel nets, and handlines.

RECREATIONAL FISHERY

Catch

For the three seasons, spring, summer, and fall, we estimate the sport fishery catch in the Cape Canaveral Area to total about 2,233,000 fish (spring, 857,000; summer, 590,000; and fall, 786,000) or 2,292,000 pounds (spring, 939,000; summer, 595,000; and fall, 758,000). We estimate the winter season values at least equal those for the spring. Therefore, on an annual basis, we estimate the sport fishery catch to be 3,090,000 fish weighing 3,231,000 pounds.

Table 63.--Estimates of average weight per fish for species entering the sport fishery catch of Cape Canaveral Area. These weights were used to convert numbers and estimates of numbers of fish to estimates of weight in pounds in the several tables in this report

Species	Average weight in pounds	Species	Average weight in pounds
Amberjack	15.00	Pigfish	0.25
Barracuda	8.00	Pinfish	0.25
Black margate	1.00	Pompano	0.50
Bluefish	1.50	Porgies	2.00
Cabio	9.00	Puffers	0.50
Catfish, gafftopsail	0.75	Rays	1.00
Catfish, sea	1.00	Sea bass, black	1.00
Croaker	0.50	Sea bass, rock	0.25
Cutlassfish	1.25	Sea robin	0.25
Dolphin	8.00	Sea trout, gray	1.50
Drum, black 1/ N.	1.50	Sea trout, silver	1.00
S.	13.75	Sea trout, spotted	1.75
Drum, red	2.00	Sharks	3.50
Eels	2.00	Sheepshead	1.25
Flounders	1.25	Snapper, red	8.00
Groupers 1/ N.	0.50	Snapper, mangrove	0.50
S.	10.00	Snapper, other	3.00
Grunts	0.50	Spadefish	0.50
Jack, crevalle	1.50	Spanish mackerel	1.75
Jack, other	1.00	Spot	0.50
King mackerel	8.00	Tenpounder	1.00
King whiting	0.75	Triggerfish	2.50
Little tuna	6.50	Yellowtail	0.25
Mojarra	0.50	Unclassified fish	0.25
Mullet	1.00		

1/ Different average weights were used in northern (N.) and southern (S.) sections because of difference in sizes of fish generally observed for species between the two sections.

We estimate the Southern Section contributes 58 percent of the total numbers and 57 percent of the poundage (based on the total for three seasons). The catch from bridges and causeways in the entire area is estimated to be 53 percent of total numbers of fish and 43 percent of total weight.

The nine dominant species in the sport fishery catch in numbers of fish, in decreasing order of importance, are: spotted sea trout, pinfish, puffers, sea trout (other), catfish, king whiting, sheepshead, bluefish, and croaker. These nine species account for 76 percent of the total numbers taken and 73 percent of the pounds. By seasons, the numbers of these species represent 82 percent of the total for the spring, 74 percent for the summer, and 72 percent for the fall. Spotted sea trout, the most important sport fish, represented 20 percent of the total numbers of fish and 33 percent of the weight.

We estimate the spotted sea trout catch in the commercial and sport fisheries combined exceeds 1-1/2 million pounds annually, over two-thirds of which comes from the sport fishery.

Fishing Effort

Estimates of annual total effort of sports fishermen in the entire area (based upon our data for three seasons and an estimation of

half of the spring values for the winter season) are about 754,000 fishermen fishing about 2,749,000 hours. Fishing effort during the spring, summer, and fall is about equal, but is reduced in the winter to about half the value for the other seasons. Greatest fishing effort was expended during July and August. However, peak catches occurred in March, April, and September.

Bait Fishery

Shrimp is one of the principal baits used by sport fishermen, and we estimate that about 8 million live shrimp, weighing about 90,000 pounds and selling for about $200,000, are sold annually by bait dealers alone. Many fishermen secure their own live shrimp with pushnets, dip nets, and cast nets.

Table 64.--List of scientific and common names of species of fish

Scientific name	Common name
Ablennes hians (Valenciennes)	Flat needlefish
Acanthocybium solanderi (Cuvier)	Wahoo
Acanthostracion sp.	Cowfish
Acanthostracion quadricornis (Linnaeus)	Cowfish
Aetobatus narinari (Euphrasen)	Spotted eagle ray
Alutera schoepfii (Walbaum)	Orange filefish
Alutera spp.	Filefish
Anchoa sp.	Anchovy
Anchoa mitchilli (Valenciennes)	Bay anchovy
Anchoa hepsetus (Linnaeus)	Striped anchovy
Ancylopsetta sp.	Flounder
Ancylopsetta quadrocellata Gill	Ocellated flounder
Anisotremus surinamensis (Bloch)	Black margate
Antennarius radiosus Garman	Singlespot frogfish
Anthias sp.	Barbier
APODES	Eel
Archosargus sp.	Sheepshead; porgy
Astroscopus y-graecum (Cuvier)	Southern stargazer
Bagre marinus (Mitchill)	Gafftopsail; sea catfish
Bairdiella chrysura (Lacépède)	Yellowtail; silver perch
Balistes sp.	Triggerfish
BATOIDEI	Ray
Bellator sp.	Sea robin
Bellator militaris (Goode and Bean)	Horned sea robin
Bothus sp.	Flounder
Brevoortia sp.	Menhaden; pogy
Brevoortia smithi Hildebrand	Yellowfin shad
Brevoortia tyrannus (Latrobe)	Atlantic menhaden
BROTULIDAE	Brotula
Calamus sp.	Porgy
Caranx sp.	Jack
Caranx bartholomaei Cuvier	Yellow jack
Caranx crysos (Mitchill)	Blue runner; hardtail
Caranx hippos (Linnaeus)	Crevalle jack; crevalle; jackfish
Caranx ruber (Bloch)	Bar jack
Carcharhinus sp.	Shark
Carcharhinus falciformis (Müller and Henle)	Sickle shark
Carcharhinus milberti (Müller and Henle)	Sandbar shark
Carcharias taurus Rafinesque	Sand shark
Centropristis sp.	Sea bass
Centropristis ocyurus (Jordan and Evermann)	Bank sea bass
Centropristis philadelphicus (Linnaeus)	Rock sea bass
Centropristis striatus (Linnaeus)	Black sea bass; blackfish
Chaetodipterus faber (Broussonet)	Spadefish; angelfish
Chilomycterus sp.	Burrfish
Chilomycterus schoepfi (Walbaum)	Striped burrfish
Chlorophthalmus sp.	--
Chloroscombrus chrysurus (Linnaeus)	Bumper
Citharichthys sp.	Flounder
Citharichthys arctifrons Goode	Gulf Stream flounder
Citharichthys macrops Dresel	Spotted whiff
Citharichthys spilopterus Günther	Bay whiff
CLUPEIDAE	Herring
CONGRIDAE	Conger eel
Coryphaena hippurus Linnaeus	Dolphin
Cynoscion sp.	Sea trout
Cynoscion nebulosus (Cuvier)	Spotted or speckled sea trout
Cynoscion nothus (Holbrook)	Silver sea trout
Cynoscion regalis (Bloch and Schneider)	Gray sea trout; gray trout
Cypselurus sp.	Flyingfish
Cypselurus heterurus (Rafinesque)	Atlantic flyingfish
Dasyatis americana Hildebrand and Schroeder	Southern stingray
Dasyatis centroura (Mitchill)	Roughtail stingray
Dasyatis sabina (LeSueur)	Atlantic stingray
Dasyatis say (LeSueur)	Bluntnose stingray
Decapterus sp.	Scad
Decapterus punctatus (Agassiz)	Round scad
Diplectrum sp.	Sand perch
Diplectrum formosum (Linnaeus)	Sand perch
ECHENEIDAE	Remora
Echeneis naucrates Linnaeus	Sharksucker
Elops saurus Linnaeus	Tenpounder; ladyfish
Epinephelus sp.	Grouper
Epinephelus itajara (Lichtenstein)	Jewfish
Epinephelus nigritus (Holbrook)	Warsaw grouper; black jewfish
Epinephelus niveatus (Valenciennes)	Snowy grouper
Equetus lanceolatus (Linnaeus)	Jackknife-fish; ribbonfish
Etropus sp.	Flounder
Etropus crossotus Jordan and Gilbert	Fringed flounder
Etrumeus sadina (Mitchill)	Atlantic round herring
Eucinostomus sp.	Mojarra
Euthynnus alletteratus (Rafinesque)	Little tuna
Fistularia tabacaria Linnaeus	Cornetfish
Galeichthys felis (Linnaeus)	Sea catfish
Galeus arae (Nichols)	Crested shark
GERRIDAE	Mojarra; silver perch; sand perch; sand bream
Gymnachirus nudus Kaup	Naked sole
Gymnura micrura (Bloch and Schneider)	Smooth butterfly ray
Haemulon sp.	Grunt; margate
Haemulon plumieri (Lacépède)	White grunt; common grunt
Halieutichthys sp.	Batfish
Halieutichthys aculeatus (Mitchill)	Spiny batfish
Harengula pensacolae Goode and Bean	Scaled sardine
Hemanthias sp.	Barbier
Hemiramphus sp.	Halfbeak
Hemiramphus balao LeSueur	Balao
Hemiramphus brasiliensis (Linnaeus)	Ballyhoo
Hippocampus sp.	Seahorse
Hippoglossina oblonga (Mitchill)	Fourspot flounder
Histrio histrio (Linnaeus)	Sargassumfish
Hyporhamphus unifasciatus (Ranzani)	Halfbeak
Hypsoblennius sp.	Blenny
Istiophorus albicans (Latreille)	Atlantic sailfish
Kathetostoma albigutta Bean	Lancer stargazer
Kyphosus incisor (Cuvier)	Yellow chub
Kyphosus sectatrix (Linnaeus)	Bermuda chub
Lactophrys trigonus (Linnaeus)	Trunkfish
Lagodon rhomboides (Linnaeus)	Pinfish; sailors choice
Larimus fasciatus Holbrook	Banded drum
Leiostomus xanthurus Lacépède	Spot
Lepophidium sp.	Cusk-eel
Lobotes surinamensis (Bloch)	Tripletail
Lutjanus sp.	Snapper
Lutjanus blackfordii Goode and Bean	Red snapper
Lutjanus griseus (Linnaeus)	Mangrove snapper; gray snapper
Membras martinica (Valenciennes)	Rough silverside
Menticirrhus sp.	Whiting
Menticirrhus americanus (Linnaeus)	Southern kingfish; king whiting
Menticirrhus saxatilis (Bloch and Schneider)	Northern kingfish; king whiting
Merluccius sp.	Hake
Micropogon undulatus (Linnaeus)	Atlantic croaker
MONACANTHIDAE	Filefish
Monacanthus sp.	Filefish
Mugil sp.	Mullet
Mugil cephalus Linnaeus	Black mullet; striped mullet; jumping mullet
Mugil curema Valenciennes	Silver mullet
Mullus auratus Jordan and Gilbert	Red goatfish
Mycteroperca sp.	Grouper
Myliobatis sp.	Eagle ray
Negaprion brevirostris (Poey)	Lemon shark
Ocyurus chrysurus (Bloch)	Yellowtail snapper
Ogcocephalus sp.	Batfish
Ogcocephalus vespertilio (Linnaeus)	Longnose batfish
Ophichthus sp.	Snake eel
Ophichthus ocellatus (LeSueur)	Palespotted eel
OPHIDIIDAE	Cusk-eel
Ophidion holbrooki (Putnam)	Bank cusk-eel
Opisthonema oglinum (LeSueur)	Atlantic thread herring
Opsanus sp.	Toadfish
Orthopristis chrysopterus (Linnaeus)	Pigfish
Otophidium grayi Fowler	Cusk-eel
Pagrus sp.	Red porgy
Paralichthys sp.	Flounder
Paralichthys albigutta Jordan and Gilbert	Gulf flounder
Paralichthys dentatus (Linnaeus)	Summer flounder
Paralichthys lethostigma Jordan and Gilbert	Southern flounder
Paralichthys squamilentus Jordan and Gilbert	Broad flounder
Parexocoetus brachypterus (Richardson)	Sailfin flyingfish
Peprilus sp.	Butterfish
Peprilus alepidotus (Linnaeus)	Southern harvestfish
Peprilus paru (Linnaeus)	Northern harvestfish
Peristedion sp.	Armored sea robin
Phycis sp.	Hake
Poecilopsetta sp.	Flounder
Pogonias cromis (Linnaeus)	Black drum; drum
Polymixia lowei (Günther)	Beardfish

Table 64.--Continued

Scientific name	Common name	Scientific name	Common name
Pomatomus saltatrix (Linnaeus)	Bluefish	Seriola dumerili (Risso)	Greater amberjack
Pontinus sp.	Scorpionfish	Serranus phoebe Poey	Tattler
Porichthys sp.	Midshipman	SPARIDAE	Porgy
Porichthys porosissimus (Valenciennes)	Atlantic midshipman	Sphyraena sp.	Barracuda
Poronotus triacanthus (Peck)	Butterfish	Sphaeroides sp.	Puffer; blowfish
Prionotus sp.	Sea robin	Sphyrna tiburo (Linnaeus)	Bonnethead
Prionotus carolinus (Linnaeus)	Northern sea robin	Sphyrna zygaena (Linnaeus)	Smooth hammerhead
Prionotus evolans (Linnaeus)	Striped sea robin	Squalus sp.	Dogfish shark
Prionotus pectoralis Nichols and Breder	Blackwing sea robin	Stellifer lanceolatus (Holbrook)	Star drum
Prionotus roseus Jordan and Evermann	Bluespotted sea robin	Stenotomus sp.	Porgy; scup
Prognichthys gibbifrons (Valenciennes)	Bluntnose flyingfish	Stenotomus chrysops (Linnaeus)	Scup
Pseudupeneus maculatus (Bloch)	Spotted goatfish	Stephanolepis sp.	Filefish
Rachycentron canadum (Linnaeus)	Cabio; cobia	Stephanolepis hispidus (Linnaeus)	Planehead filefish
Raja sp.	Skate	Strongylura acus (Lacépède)	Needlefish; agujon
Raja eglanteria Bosc	Clearnose skate	Syacium sp.	Flounder
Rhinoptera bonasus (Mitchill)	Cownose ray	Symphurus sp.	Tonguefish
Rhizoprionodon terraenovae (Richardson)	Atlantic sharpnose shark	Symphurus plagiusa (Linnaeus)	Black cheek tonguefish
Rhomboplites sp.	Vermilion snapper	Syngnathus sp.	Pipefish
Rhomboplites aurorubens (Cuvier)	Vermilion snapper	Synodus sp.	Lizardfish
Rissola marginata (DeKay)	Striped cusk-eel	Synodus foetens (Linnaeus)	Inshore lizardfish
Sarda sarda (Bloch)	Atlantic bonito	Synodus intermedius (Spix)	Sand diver
Sardinella sp.	Sardine	Thunnus sp.	Tuna
SCIAENIDAE	Drum	TORPEDINIDAE	Electric ray
Sciaenops ocellata (Linnaeus)	Red drum; channel bass; redfish	Torpedo nobiliana Bonaparte	Atlantic torpedo
Scomber colias Gmelin	Chub mackerel	Trachinocephalus myops (Forster)	Snakefish
Scomberomorus cavalla (Cuvier)	King mackerel; kingfish	Trachinotus sp.	Pompano
Scomberomorus maculatus (Mitchill)	Spanish mackerel; mackerel	Trachinotus carolinus (Linnaeus)	Pompano
Scophthalmus aquosus (Mitchill)	Windowpane flounder	Trachurus lathami Nichols	Rough scad
Scorpaena sp.	Scorpionfish	Trichiurus lepturus Linnaeus	Atlantic cutlassfish; ribbonfish
Scorpaena brasiliensis Cuvier	Barbfish	TRIGLIDAE	Sea robin
Scorpaena calcarata Goode and Bean	Smoothhead scorpionfish	Trinectes maculatus (Bloch and Schneider)	Hogchoker
SCORPAENIDAE	Scorpionfish; rockfish	Urophycis sp.	Hake
SELACHII	Shark	Urophycis regius (Walbaum)	Spotted hake
Selar crumenophthalmus (Bloch)	Bigeye scad	Vomer setapinnis (Mitchill)	Atlantic moonfish
Selene vomer (Linnaeus)	Lookdown	Xiphias gladius Linnaeus	Swordfish
Seriola sp.	Amberjack		

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